33332

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Gailene R. Gabel Examiner #: 76197 Date: 1/17/01
Art Unit: 1641 Phone Number 305-0807 Serial Number: 09/504,643
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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Flow Cytometry for High Throughput Screening

Inventors (please provide full names): Sklar, Dr. Larry ; Edwards Dr. Bruce
Kuckuck, Dr Frederick

Earliest Priority Filing Date: 2/10/00

Point of Contact:
Mona Smith
Technical Info. Specialist
CM1 12C14 Tel: 308-3278

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

(1) Please search keywords
flow cytomet? apparatus/device
flow cytomet? method?/assay?

(3) Include highlighted terms in claims
1-3, 5, 8-10, 12-13, 15, 19-27

312 913 2106
D. Harper
93?

JAN 18 2001

Thanks
Gail

See abstract

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STAFF USE ONLY Type of Search Vendors and cost where applicable

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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
?ds

Set     Items   Description
S1     220574   FLOW(2N)CYTOMET?
S2          4   S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3          1   RD (unique items)
?t s3/3 ab/1

 3/AB/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

09727450   BIOSIS NO.: 199598182368
Computer software for testing drug susceptibility of malaria parasites.
AUTHOR: Reinders Paul P(a); Van Vianen Philip H; Van Der Keur Maarten; Van
  Engen Anneloes; Janse Chris J; Tanke Hans J
AUTHOR ADDRESS: (a)Dep. Hematol., Room E1-Q74, Acad. Hosp. Leiden, P.O. Box
  9600, 2300 RC Leiden**Netherlands
JOURNAL: Cytometry  19 (3):p273-281 1995
ISSN: 0196-4763
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A computer program is described for the automated analysis of
  data obtained by flow   cytometry  for in vitro an drug susceptibility
```

testing. Samples of malaria-infected red blood cells (RBC), which were cultured in the presence of different concentrations of an drugs, were stained with Hoechst. The Hoechst fluorescence intensity of infected RBC corresponds to DNA content of the parasites and to their stage of development. After measurement of the samples by a FACStar flow cytometer equipped with a UV laser and an autosampler , FCS 1.0 data files were generated. The HP PASCAL program developed for these files identifies five different populations-uninfected RBC, infected RBC, free parasites, leukocytes, and debris-on the basis of their light scatter and fluorescence characteristics. The program calculates the percentage of infected cells, the total number of parasite nuclei, and the average number of nuclei per parasite. The results of each culture are presented as a drug dose-response curve. During data analysis, user interaction is limited to selecting the first file of the first culture. The algorithm then processes each culture automatically. Potential problems or difficulties in analysis are flagged. To date, a total of 862 drug tests have been evaluated and fail into two classes, an extended microtest and the World Health Organization standardized microtest. These tests gave satisfactory results in more than 99% of the cases.

1995
?ds

Set	Items	Description
S1	220574	FLOW(2N)CYTOMET?
S2	4	S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3	1	RD (unique items)
S4	2	S1 AND (PERISTAL?(W)PUMP?)
S5	2	RD (unique items)

?t s5/3 ab/1-2

5/AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6755371 INSPEC Abstract Number: A2000-24-8780-018, B2000-12-2575-007
Title: Single molecule and cell manipulation in soft microfluidic devices
Author(s): Quake, S.
Author Affiliation: Dept. of Appl. Phys., California Inst. of Technol., Pasadena, CA, USA
Conference Title: 2000 IEEE/LEOS International Conference on Optical MEMS (Cat. No.00EX399) p.55
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2000 Country of Publication: USA 155 pp.
ISBN: 0 7803 6257 8 Material Identity Number: XX-2000-02303
U.S. Copyright Clearance Center Code: 0 7803 6257 8/2000/$10.00
Conference Title: 2000 IEEE/LEOS International Conference on Optical MEMS
Conference Sponsor: IEEE/LEOS; OSA
Conference Date: 21-24 Aug. 2000 Conference Location: Kauai, HI, USA
Language: English
Abstract: Summary form only given as follows: We have been using soft lithography to make microfluidic chips for ultrasensitive analysis of single DNA molecules and cells. There are numerous advantages to fabricating chips out of polymeric materials, and as a result we have been able to rapidly and inexpensively fabricate active devices with moving parts, such as pinch valves and peristaltic pumps . We have also developed a microfabricated flow cytometry chip as a replacement for analytical pulsed field gel electrophoresis. Assays with these chips are two orders of magnitude faster than pulsed field gels and use a million times less material. Because they are detecting single molecules, their sensitivity is comparable to PCR based techniques. We have also developed a

microfabricated fluorescence activated cell sorter and demonstrated its use in screening bacterial cells. The novel valve and pump components for on-chip fluidic manipulation that we developed in the course of this research will be useful for fabricating more complex chip designs for a variety of biotechnological applications.
Subfile: A B

5/AB/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

01404089 EMBASE No: 1979124863
A cooling device for flow cytometric systems
Prudhomme D.
Surg. Immunol. Lab., VA Hosp., Miami, Fla. 33125 United States
Stain Technology (STAIN TECHNOL.) (United States) 1978, 53/5 (300-301)
CODEN: STTEA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

A peristaltic pump moves cold water in a closed system through copper coils immersed in an ice bath, then through thin-walled plastic tubing to a second smaller copper coil closely wound to fit the sample holder. The tubing enters and exits through a notch cut in the safety door of the sample holder.
?ds

Set	Items	Description
S1	220574	FLOW(2N)CYTOMET?
S2	4	S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3	1	RD (unique items)
S4	2	S1 AND (PERISTAL?(W)PUMP?)
S5	2	RD (unique items)
S6	666	S1 (S)PUMP?
S7	1	S6 AND PERISTAL?
S8	86009	S1 AND (POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR - PVC
S9	46	S1 AND ((POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR PVC)
S10	16	RD (unique items)

?t s10/3 ab/1-16

10/AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

5594461 INSPEC Abstract Number: A9713-8725-007
Title: Dynamic blood cell contact with biomaterials: validation of a flow chamber system according to international standards
Author(s): Otto, M.; Klein, C.L.; Kohler, H.; Wagner, M.; Rohrig, O.; Kirkpatrick, C.J.
Author Affiliation: Inst. of Pathology, Johannes Gutenberg Univ., Mainz, Germany
Journal: Journal of Materials Science: Materials in Medicine vol.8, no.3 p.119-29
Publisher: Chapman & Hall,
Publication Date: March 1997 Country of Publication: UK
CODEN: JSMMEL ISSN: 0957-4530
SICI: 0957-4530(199703)8:3L.119:DBCC;1-8

Material Identity Number: N686-97003
Language: English
Abstract: The increasing number of patients requiring prosthetic substitution of segments of the vascular system strongly supports the need to optimize a relevant, standardized testing panel for new materials designed for synthetic vascular prostheses. The ISO gives the standard requirements for testing biomaterials provided for implantation. The authors' primary interest was the establishment of a reliable in vitro panel as a useful and relevant screening system for vascular implant devices to evaluate blood/device interactions under flow conditions. The aim of the present study was to evaluate influences of different flow conditions on blood cell-biomaterial interactions with special emphasis on the interactions of human granulocytes (PMN) and polymeric surfaces. PMN were isolated and vital cells were quantified by flow cytometrical analysis directly before, as well as immediately after the experiments. The viscosity of the final cellular suspension was analysed by using a computerized cone-plate rheometer. As reference materials the authors used FEP-teflon, PVC -DEHD, PU, PP and PE. Dacron and ePTFE synthetic vascular protheses were tested in a comparative way to those references. The adhesion processes were observed over a period of 40 minutes under arterial (shear stress 0.74 Pa) and venous (shear stress 0.16 Pa) flow conditions in a parallel plate flow chamber system under highly standardized conditions and laminar flow. The cells were observed with the help of inverse light microscopy. Cell behaviour was recorded and analysed in both analogue (video) and digital (imaging system) modes. Samples of the cell suspensions were obtained at regular time intervals and analysed by enzyme linked immune sorbent assay (ELISA) to quantify LTB/sub 4/ release. Irrespective of the material, approximately 3 to 4 times more PMN adhered to the biomaterial surfaces under venous flow conditions compared to the arterial. Shear intensity did not influence the running order of biomaterials with respect to cell numbers. This response in descending order at the end of the experiments was as follows: PU, PVC -DEHD, PP, PE and ePTFE. The biochemical analyses indicate that in the system used only a weak effect on LTB/sub 4/ release induced by the different materials could be determined. A significant effect caused by flow conditions was not observed. Further experiments, both static as well as dynamic, must be performed for multiple, relevant parameters of haemocompatibility, for potential biomaterials as well as those currently in use in vascular prostheses.
Subfile: A

10/AB/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11823082 BIOSIS NO.: 199900069191
Induced cell trauma during in vitro perfusion: A comparison between two different perfusion systems.
AUTHOR: Skogby M(a); Mellgren K; Adrian K; Friberg L G; Chevalier J Y; Mellgren G
AUTHOR ADDRESS: (a)Dep. Pediatr. Intensive Care, Sahlgrenska Univ. Hosp./Ostra Sjukhuset, S-416 85 Goteborg**Sweden
JOURNAL: Artificial Organs 22 (12):p1045-1051 Dec., 1998
ISSN: 0160-564X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The purpose of this study was to compare blood cell activation during in vitro long-term perfusion using 2 parallel in vitro

extracorporeal membrane oxygenation (ECMO) systems. We compared two substantially different perfusion systems, an assistance respiratoire extra corporelle (AREC) system on one hand, containing an AREC pump, silicon tubing, and a hollow-fiber oxygenator, and a centrifugal pump system, on the other hand, containing a Biomedicus centrifugal pump, PVC tubing, and a membrane oxygenator. We measured the platelet count using an automated blood cell counter. Platelet activation was evaluated using a flow cytometric technique for the platelet membrane expression of glycoproteins and ELISA for the plasma concentration of beta-thromboglobulin (beta-TG), a platelet specific protein released into the blood upon platelet activation. The neutrophil count was assayed using an automated blood cell counter and the plasma concentration of cytokines using an ELISA kit. A significant difference between the two systems was observed in terms of the platelet membrane expression of glycoprotein (GP)Ib ($p = 0.0001$) and GPIIb/IIIa ($p = 0.0037$), indicating a lower degree of platelet activation in the AREC system. The concentration of neutrophils was significantly lower in the centrifugal system ($p = 0.002$) compared to the AREC system. The neutrophil membrane expression of CD11b was significantly lower ($p = 0.0067$) in the AREC system, indicating a lower degree of neutrophil activation compared to the centrifugal pump system. A significantly lower degree of hemolysis, as expressed by plasma hemoglobin, was observed in the AREC pump system ($p = 0.0491$). In conclusion, lower degrees of the platelet membrane expression of GPIb and GPIIb/IIIa and of the neutrophil membrane expression of CD11b were observed in the AREC system, indicating a lower degree of platelet and neutrophil activation in this system. No significant difference between the two systems as to the plasma concentration of interleukin (IL)-1beta, IL-6, or IL-8 could be recorded. Further studies are warranted to specify the role of each individual component of the two systems.

1998

10/AB/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11811927 BIOSIS NO.: 199900058036
Polymorphonuclear cell apoptosis in exudates generated by polymers.
AUTHOR: Fabre T(a); Belloc F; Dupuy B; Schappacher M; Soum A; Bertrand-Barat J; Baquey C; Durandeau A
AUTHOR ADDRESS: (a)INSERM U-443, Univ. Bordeaux II, 146 rue Leo-Saignat, 33076 Bordeaux Cedex**France
JOURNAL: Journal of Biomedical Materials Research 44 (4):p429-435 March 15, 1999
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Flow cytometry was used to quantify apoptotic and necrotic polymorphonuclear (PMN) cells in an exudate generated by biomaterials, and the results were compared with determinations of spontaneous apoptosis and necrosis in PMN cells from the bloodstream. The exudate formed inside cylindrical tubes subcutaneously implanted in the dorsal region of rats was collected over a 1-week period. A rapid and simple staining procedure based on the spectral properties of the bisbenzemide Hoechst 33342 was used to identify apoptotic PMN cells. Quantification of permeabilized PMN cells stained by propidium iodide was possible in the same unfixed specimens. The percentages of apoptotic and permeabilized

PMN cells in peripheral rat blood were low (1.8 +- 0.5% and 1.7 +- 0.7%, respectively), similar to results found in humans. In exudates generated by polyvinyl chloride (PVC), the percentages of apoptotic and permeabilized PMN cells were higher than in the blood. The percentage of PMN cells undergoing apoptosis progressively increased with time and reached a maximum at day 2 (27% +- 6%). The percentage of permeabilized cells progressively increased with time and was much higher than the percentage of apoptotic cells on days 4 and 8. Apoptosis and necrosis of PMN cells at day 2 were inhibited when tubes were filled with 10% serum. Selective inhibition of apoptosis with a caspase inhibitor in vivo indicated that apoptosis and necrosis are two separate pathways leading to the death of PMN cells in the exudate. At day 2, polyurethane (PU) was associated with a lower rate of apoptosis than PVC or a random copolymer of trimethylene carbonate (TMC) and epsiloncaprolactone (ECL). Apoptosis was interpreted as an organized cell removal process that limits inflammation. Apoptosis was the natural route of PMN cell death at the early stage of inflammation.

1999

10/AB/4 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11349647 BIOSIS NO.: 199800130979
The storage lesion of single donor platelets: Insights from flow cytometric analysis and transmission electron microscopy.
AUTHOR: Gutensohn K(a); Schaefer P; Krueger W; Loeliger C C; Asmussen C; Geidel K; Kuehnl P
AUTHOR ADDRESS: (a)Abteilung Transfusionmed./Transplantationsimmunol., Univ.-Krankenhaus Eppendorf, Universitaet Ha**Germany
JOURNAL: Infusionstherapie und Transfusionmedizin 24 (6):p412-418 Dec., 1997
ISSN: 1019-8466
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English; German

ABSTRACT: Background: During storage, platelets undergo morphological and immunological alterations. This study was performed to investigate the influence of storage on platelet antigens by flow cytometry and on morphology by electron microscopy. Materials and Methods: Platelet concentrates (n=24) were prepared by continuous-flow centrifugation plateletpheresis. Afterwards, they were stored in polyvinylchloride (PVC) containers for 7 days. Aliquots were taken daily to examine platelet glycoproteins CD41a, CD42b, CD62p, and CD63 by flow cytometry. Every second day, aliquots were drawn for electron microscopic analyses. Results: During storage, the expression of CD62p (P-selectin) and CD63 (gp53) progressively increased. Mean channel fluorescence intensity (MCFI) for CD62p increased from day 1 to day 7 from 21.3 to 43.4 ($p < 0.05$), MCFI of CD63 from 19.5 to 29.5 MCFI ($p < 0.05$). MCFI of CD41a decreased from 1,165.2 to 1,119.0 and subsequently returned to baseline levels ($p < 0.05$). MCFI of CD42b continuously decreased from 301.6 to 279.7 from day 0 to 7 ($p < 0.05$). Transmission electron microscopy (TEM) revealed progressive platelet activation and destruction. Over the storage period external and internal reorganization became clearly apparent. Conclusion: During storage of platelet concentrates, antigens and morphology of platelets are altered. Flow cytometry and TEM provide insights into the storage lesion and are suitable techniques for

quality control of platelet concentrates and evaluation of biocompatibility. However, due to the more objective, faster and more sensitive analysis, only flow cytometry may also be suitable for routine applications in quality control.

1997

10/AB/5 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11340602 BIOSIS NO.: 199800121934
Quantification of the inflammatory response in exudates to three polymers implanted in vivo.
AUTHOR: Fabre T(a); Bertrand-Barat J; Freyburger G; Rivel J; Dupuy B; Durandeau A; Baquey C
AUTHOR ADDRESS: (a)INSERM-U 443, Univ. Bordeaux II, 146 rue Leo Saignat, 33076 Bordeaux Cedex**France
JOURNAL: Journal of Biomedical Materials Research 39 (4):p637-641 March 15, 1998
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Flow cytometry was used to quantify an inflammatory reaction in vivo as a new approach to evaluating the biocompatibility of biomaterials. The exudate formed inside cylindrical tubes composed of polyvinyl chloride (PVC), silicone elastomer (SIL), or polyurethane (PU) implanted subcutaneously in the dorsal region of rats was collected over a 3-week period. The volume, number of cells, and concentration of fibrinogen were determined in the exudate for the three biomaterials. The exudate was analyzed using a flow cytometry technique after labeling of the leukocytes with a monoclonal anti-CD45 antibody. Fibrinogen rose progressively over the 3-week period for the three polymers. After the different leukocyte lines were identified in rat blood samples, their determination in the exudate revealed differences among the three biomaterials. At day 2, PVC induced a predominantly neutrophilic inflammatory reaction whereas PU and SIL gave a mixture of monocytes and neutrophils. At day 9, the aspect of the cytograms was different, but the identification of the subpopulations was still possible. At day 23, the number of cell events became too low to distinguish the subpopulations. An even more detailed approach might be possible using specific labeling for each leukocyte line to establish a comparison among the three biomaterials. Flow cytometry associated with histomorphometric assessment might provide a precise quantitative in vivo test for determining the biocompatibility of materials.

1998

10/AB/6 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10983815 BIOSIS NO.: 199799604960
Flow cytometric analysis of coronary stent-induced alterations of platelet antigens in an in vitro model.
AUTHOR: Gutensohn K(a); Beythien C; Bau J; Meinertz T; Kuehnl P
AUTHOR ADDRESS: (a)Dep. Transfusion Med., Transplantation Immunol., Univ.

Hosp. Eppendorf, Martinistrasse 52, 20246**Germany
JOURNAL: Thrombosis Research 86 (1):p49-56 1997
ISSN: 0049-3848
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: One of the limitations of coronary stenting is the subacute thrombotic occlusion. In an in vitro model, we examined the effects of tantalum wire stents (n=12) on platelet antigens. Platelet-rich plasma (PRP) was circulated in PVC tubing systems. At fixed intervals over a 10-min time course, aliquots of PRP were drawn, stained with monoclonal antibodies (CD41a, CD42b, CD62p, and CD63), and analyzed by flow cytometry . Within 2 minutes of the onset of circulation, expression of the activation-dependent antigens CD62p and CD63 increased in all tubing systems with stents. This early increase was followed by a progressive rise in fluorescence intensity of these neoantigens over the course of 10 minutes (p lt 0.05 vs.. control system without stent). Antigens CD41a and CD42b did not show significant changes in either system. The artificial surfaces and shear forces of stent meshes induce alterations in platelet antigens. Flow cytometry provides a sensitive technique for in vitro testing of the thrombogenicity of coronary stents, and may be useful in further improving stent biocompatibility.

1997

10/AB/7 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10784707 BIOSIS NO.: 199799405852
Cardiopulmonary bypass tubes and prime solutions stimulate neutrophil adhesion molecules.
AUTHOR: El Habbal Magdi H(a); Smith Linda J; Elliott Martin J; Strobel Stephan
AUTHOR ADDRESS: (a)Postgrad. Med. Educ. Cardiothoracic Unit, Inst. Child Health, Great Ormond Street Hosp. Children**UK
JOURNAL: Cardiovascular Research 33 (1):p209-215 1997
ISSN: 0008-6363
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Objective: To evaluate effects of the material of the cardiopulmonary bypass (CPB) tubes (polyvinyl chloride , PVC) and prime solutions on expression of neutrophil adhesion molecule CD11b and L-selectin. Methods: We carried out a series of experiments using donor blood from 30 healthy adult human volunteers. In all experiments, neutrophil cell surface expressions of CD11b and L-selectin were assayed immediately and serially up to 2 hours, using immune-fluorescence techniques and flow cytometry . Study 1: Effects of PVC were compared with glass and polystyrene (n = 5). Study 2: Blood was mixed with Plasma-lyte (Pl) (prime solution), Hartman solutions, albumin or not altered (control), n = 5. Study 3: The effects of changing pH of the Pl (control, neutralized and acidic solution, n = 5) were examined. Study 4: Hemodilution (undiluted, 1:1, 1:2, and 1:3, vol/vol, prime to blood, n = 5) was carried out using Pl and the subsequent changes in expressions of the adhesion molecules were analyzed. Study 5: The combined effect of PVC and Pl was assessed (n = 5). Study 6: We evaluated the effect of increasing plasma water by adding sterile water to whole blood and compared it with control (n = 5). Results: Study 1: PVC , similar to glass, caused more up-regulation of CD11b and down-regulation of

L-selectin than polystyrene (238 and 162% vs. 68 increase of CD11b, P lt 0.001; 89 and 95% vs. 16% decrease of L-selectin, P lt 0.001). Study 2: Pl and Hartman solutions caused more up-regulation of CD11b and down-regulation of L-selectin compared to albumin and control (166 and 188% vs. 26 and 44% increase of CD11b, P lt 0.01; 19 and 26% vs. 10 and 6% decrease of L-selectin, P lt 0.01, respectively). Study 3: Hemodilution had no effect on these molecules. Study 4: The mean of the difference between the acidic and neutral solution was 208% increase of CD11b and 30% decrease of L-selectin, P lt 0.05. Study 5. The combined effect of mixing blood with Pl and exposure to PVC caused marked up-regulation of CD11b (336% increase, P lt 0.01) and down-regulation of L-selectin (78% decrease, P lt 0.05). Study 6: Water for injection caused marked up-regulation of CD11b and down-regulation of L-selectin. Conclusions: Mixing blood with acidic prime solution and/or exposing it to PVC tubes causes up-regulation of neutrophil adhesion molecule CD11b and down-regulation of L-selectin. Neutralization of the prime solution reduces the extent of neutrophil activation, whereas hemodilution has no effect. Increasing plasma water is stimulating to the neutrophil. Modulation of prime solutions and the material of CPB tubes may reduce neutrophil activation which may reduce patient morbidity.

1997

10/AB/8 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09209948 BIOSIS NO.: 199497218318
Granule secretion markers on fluid-phase platelets in whole blood perfused through capillary tubing.
AUTHOR: Rhodes N P(a); Zuzel M; Williams D F; Derrick M R
AUTHOR ADDRESS: (a)Dep. Clinical Engineering, University Liverpool, P.O. Box 147, Liverpool L69 3BX**UK
JOURNAL: Journal of Biomedical Materials Research 28 (4):p435-439 1994
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The effect of material composition and shear rate on fluid-phase platelet activation was investigated using a capillary perfusion model. Citrated whole blood was perfused along the lumens of tubes constructed from silicone, PVC , Pellethane, W124 (an experimental polyetherurethane), and glass. Platelet activation was determined by measuring the increase in alpha-granule membrane protein P-selectin (GMP-140, CD62) and the lysosomal granule membrane protein GP-53 (CD63) on fluid-phase platelets by flow cytometry . All tubes caused an increase over the negative control in the number of P-selectin and GP-53 molecules detectable on the surface of these platelets. The activation response of platelets to changes in shear rate was also investigated. It was found that lysosomal release paralleled a-granule release in glass, but not in Pellethane, over a range of wall shear rates (100-1,000 s-1).

1994

10/AB/9 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

07988590 Genuine Article#: 233HH Number of References: 30
Title: Platelet compatibility of an artificial surface modified with functionally active heparin (ABSTRACT AVAILABLE)
Author(s): Mollnes TE (REPRINT) ; Videm V; Christiansen D; Bergseth G; Riesenfeld J; Hovig T
Corporate Source: NORDLAND CENT HOSP,DEPT IMMUNOL & TRANSFUS MED/N-8092 BODO//NORWAY/ (REPRINT); UNIV TROMSO,/N-9001 TROMSO//NORWAY/; NORWEGIAN UNIV SCI & TECHNOL,DEPT IMMUNOL/N-7034 TRONDHEIM//NORWAY/; NORWEGIAN UNIV SCI & TECHNOL,BLOOD BANK/N-7034 TRONDHEIM//NORWAY/; UNIV OSLO,NATL HOSP, DEPT PATHOL/N-0316 OSLO//NORWAY/; CARMEDA AB,/STOCKHOLM//SWEDEN/
Journal: THROMBOSIS AND HAEMOSTASIS, 1999, V82, N3 (SEP), P1132-1136
ISSN: 0340-6245 Publication date: 19990900
Publisher: F K SCHATTAUER VERLAG GMBH, P O BOX 10 45 43, LENZHALDE 3, D-70040 STUTTGART, GERMANY
Language: English Document Type: ARTICLE
Abstract: Platelet compatibility after coating an artificial material with functionally active heparin was investigated. Blood was circulated in uncoated or heparin coated PVC tubing. In one hour platelet counts decreased from 155 (113-184) X 10(9)/l to 124 (100-148) X 10(9)/l with uncoated compared to 164 (132-192) X 10(9)/l with heparin coated tubing (intergroup p = 0.02). beta-thromboglobulin increased from 116 (80-148) mu g/l to 1039 (757-1295) mu g/l with uncoated and to 352 (229-638) mu g/l with heparin coated tubing (intergroup p = 0.005. Platelet counts and beta-thromboglobulin correlated closely with complement activation. Solid-phase enzyme immunoassay demonstrated substantial deposition of CD42a/GPIbIX(and CD61/GPIIIa on uncoated, but not on heparin coated tubing (intergroup p < 0.0005). Scanning electron microscopy demonstrated activated platelets and aggregates on uncoated in contrast to heparin coated tubing, where scattered, unactivated platelets were found. Changes in P-selectin and microparticles were minor. In conclusion, this heparin surface substantially improved platelet compatibility. Markers of choice for in vitro evaluation were platelet counts, beta-thromboglobulin and platelet deposition.

10/AB/10 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04752956 Genuine Article#: UF059 Number of References: 20
Title: COMPUTER-SIMULATION AND DATA-ANALYSIS OF EFFECTOR-TARGET INTERACTIONS - THE EXTRACTION OF BINDING PARAMETERS FROM EFFECTOR ACID TARGET CONJUGATE FREQUENCIES DATA BY USING LINEAR AND NONLINEAR DATA-FITTING TRANSFORMATIONS (Abstract Available)
Author(s): GALVEZ J; CABRERA L; LAJARIN F; GARCIAPENARRUBIA P
Corporate Source: FAC SCI,PHYS CHEM LAB/E-30071 ESPINARDO/MURCIA/SPAIN/; SCH MED,DEPT BIOCHEM & MOLEC BIOL & IMMUNOL B/E-30071 ESPINARDO/MURCIA/SPAIN/
Journal: COMPUTERS AND BIOMEDICAL RESEARCH, 1996, V29, N2 (APR), P93-118
ISSN: 0010-4809
Language: ENGLISH Document Type: ARTICLE
Abstract: Binding isotherms for effector-target conjugation when effector conjugate frequencies are measured by holding constant the number of effector cells and by varying the number of target cells are characterized by two parameters, the maximum effector conjugate frequency, alpha(max) and gamma, which is related to the dissociation constant of the conjugates formed, K-d. The suitability of four linear transformations of these binding isotherms, as well as nonlinear data-fitting techniques, to provide estimates of alpha(max) and gamma is discussed. The strength and weakness of these procedures were investigated by calculating alpha(max) and gamma from different sets of

100 or 500 replicate ''experiments,'' which were generated by using an algorithm that provides noise contributions to the conjugate frequencies with gaussian distributed errors. Both unweighted and weighted data points were used in these calculations. A similar analysis can also be performed for binding isotherms in which target conjugate frequencies are measured at different values of effector cells by holding constant the number of target cells. In this case, the binding isotherms are characterized by two parameters, the maximum target conjugate frequency, beta(max) and delta, which is also related to K-d. The results obtained demonstrate that ii the experimental conditions are chosen properly, linear transformations and nonlinear fitting techniques provide reliable estimates for the binding parameters. Not all procedures, however, provide estimates with the same accuracy, and special emphasis to this fact must be given if the binding assays are performed at low values of the number of effector cells. (C) 1996 Academic Press, Inc.

10/AB/11 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01414815 Genuine Article#: GX443 Number of References: 17
Title: STABILITY AND SORPTION OF FK 506 IN 5-PERCENT DEXTROSE INJECTION AND 0.9-PERCENT SODIUM-CHLORIDE INJECTION IN GLASS, POLYVINYL- CHLORIDE, AND POLYOLEFIN CONTAINERS (Abstract Available)
Author(s): TAORMINA D; ABDALLAH HY; VENKATARAMANAN R; LOGUE L; BURCKART GJ; PTACHCINSKI RJ; TODO S; FUNG JJ; STARZL TE
Corporate Source: UNIV PITTSBURGH,SCH PHARM,DEPT PHARMACEUT SCI,718 SALK HALL/PITTSBURGH//PA/15261; UNIV PITTSBURGH,SCH PHARM,DEPT PHARMACEUT SCI,718 SALK HALL/PITTSBURGH//PA/15261
Journal: AMERICAN JOURNAL OF HOSPITAL PHARMACY, 1992, V49, N1 (JAN), P 119-122
Language: ENGLISH Document Type: ARTICLE
Abstract: The effects of the diluent, the storage container, light, and infusion through various types of tubing on the stability and sorption of FK 506 were studied.

Solutions of FK 506 in 0.9% sodium chloride injection or 5% dextrose injection were stored at room temperature (24 +/- 2-degrees-C) in glass i.v. bottles, polyvinyl chloride (PVC) minibags, and polyolefin containers. FK 506 solution in 0.9% sodium chloride injection was stored in plastic syringes at room temperature and either exposed to normal room light or stored in the dark. FK 506 solution in 5% dextrose injection was placed in plastic syringes and infused through PVC anesthesia extension tubing, PVC i.v. administration set tubing, and fat emulsion tubing over a two-hour period. The infused samples and samples collected from the containers and syringes at intervals up to 48 hours were analyzed for FK 506 concentration by high-performance liquid chromatography.

FK 506 concentrations remained greater than 90% of initial concentration for admixtures in 5% dextrose injection stored in glass bottles for 48 hours and for admixtures in 5% dextrose injection or 0.9% sodium chloride injection stored in polyolefin containers for 48 hours. No change in concentration was measured for admixtures in 0.9% sodium chloride injection stored in plastic syringes, and exposure to light did not affect the stability of FK 506 solution. No substantial change in concentration occurred in FK 506 solution in 5% dextrose injection infused through PVC anesthesia extension tubing, PVC i.v. administration set tubing, or fat emulsion tubing.

FK 506 admixtures prepared with 5% dextrose injection or 0.9% sodium chloride injection should be stored in polyolefin containers. If polyolefin containers are not available, solutions should be prepared with 5% dextrose injection and stored in glass bottles.

10/AB/12 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10143687 99410136
In vitro comparative evaluation under static conditions of the hemocompatibility of four types of tubing for cardiopulmonary bypass.
Harmand MF; Briquet F
INSERM U443, Universite Bordeaux II, France.
Biomaterials (ENGLAND) Sep 1999, 20 (17) p1561-71, ISSN 0142-9612
Journal Code: A4P
Languages: ENGLISH
Document type: JOURNAL ARTICLE

A comparative in vitro assessment of 4 types of tubing representative of the materials currently used in cardiopulmonary bypass (CPB) procedures was conducted under static conditions using liquid extracts of the materials or direct contact with fresh human blood or serum. The parameters monitored were biomarkers of coagulation and fibrinolytic cascades, the complement system and cell activation. Silicone and PVC tubing were shown to be non-cytotoxic and non-hemolytic. Heparin-coated PVC tubing did present a certain degree of cytotoxicity especially when in direct contact. Thrombosis was found to be significantly lower with the same heparin-coated material. To a lesser extent, platinum-cured silicone also showed a reduced thrombotic tendency. None of the materials activated platelets or the complement system. With platinum-cured silicone tubing, constant and lower leukocyte adhesion was evidenced at the different experimental time points. This could reflect reduced cell activation.

10/AB/13 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013360958
WPI Acc No: 2000-532897/200048
XRAM Acc No: C00-158788
XRPX Acc No: N00-394170
Maintaining undifferentiated hemopoietic stem/progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a 3D stromal cell culture has been preestablished, useful for gene therapy
Patent Assignee: TECHNION RES & DEV FOUND LTD (TECR); FRIEDMAN M M (FRIE-I)
Inventor: MERCHAV S; MERETSKI S
Number of Countries: 090 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200046349	A1	20000810	WO 2000US2688	A	20000204	200048	B
AU 200034807	A	20000825	AU 200034807	A	20000204	200059	

Priority Applications (No Type Date): US 99118789 A 19990204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200046349	A1	E	64	C12N-005/00	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
AU 200034807 A C12N-005/00 Based on patent WO 200046349

Abstract (Basic): WO 200046349 A1
Abstract (Basic):

NOVELTY - A method (M1) of expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a 3D stromal cell culture has been preestablished on a substrate in the form of a sheet, is new.

DETAILED DESCRIPTION - A method (M1) of expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a three dimensional stromal cell culture has been preestablished on a substrate in the form of a sheet, is new. The substrate is a non-woven fibrous matrix forming a physiologically acceptable three-dimensional network of fibers.

INDEPENDENT CLAIMS are also included for the following:

(1) a method (M2) for preparing a stromal cell conditioning medium used in M1 comprising establishing a stromal cell culture in a stationary phase plug-flow bioreactor on a substrate in the form of a sheet, where the substrate is as defined in M1, and collecting medium from the bioreactor when a desired cell density is achieved;

(2) a method (M3) of transplanting undifferentiated hemopoietic stem cells or progenitor cells into a recipient comprising expanding/maintaining the undifferentiated cells using M1 and transplanting the cells into the recipient;

(3) a bioreactor plug comprising a container having an outlet and an inlet and containing a substrate in the form of a sheet, where the substrate is as defined in M1 and supports at least 5 x 106 stromal cells per cubic centimeter of the substrate; and

(4) a plug flow bioreactor comprising the bioreactor plug of (3).

ACTIVITY - None given.

MECHANISM OF ACTION - Gene therapy.

USE - The plug flow bioreactor system mimics the 3-D structure of the bone marrow and is useful for maintenance of undifferentiated hemopoietic stem cells or progenitor cells which may then be transplanted into an individual.

ADVANTAGE - The bioreactor employs a growth matrix that increases the available attachment surface for the adherence of the stromal cells, mimicking the mechanical infrastructure of bone marrow.

pp; 64 DwgNo 0/7

10/AB/14 (Item 2 from file: 351)
DIALOG(R)File 351:Derwent WPI

012624235
WPI Acc No: 1999-430339/199936
XRAM Acc No: C99-126833
XRPX Acc No: N99-320377
Use of acoustic energy, particularly in humans or animals
Patent Assignee: GEORGIA TECH RES CORP (GEOR-N)
Inventor: LEWIS T N; LIU J; PRAUSNITZ M R
Number of Countries: 021 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9934858	A1	19990715	WO 99US659	A	19990112	199936 B
EP 1053041	A1	20001122	EP 99902199	A	19990112	200061
			WO 99US659	A	19990112	

Priority Applications (No Type Date): US 9885304 A 19980513; US 9871240 A 19980112

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9934858	A1	E	39	A61M-037/00	
Designated States (National): CA JP					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 1053041	A1	E		A61M-037/00	Based on patent WO 9934858
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

Abstract (Basic): WO 9934858 A1

Abstract (Basic):

NOVELTY - A novel method for altering permeability, cell viability or structural integrity of biological materials.

DETAILED DESCRIPTION - This permeability altering method comprises:

(a) administering acoustic energy to the biological materials at one or more frequencies;

(b) measuring the effect of the acoustic energy or a property of the acoustic energy at the time of or subsequent to the initial application of the acoustic energy; and

(c) using the measurement obtained in (b) to modify continued or subsequent application of acoustic energy to the biological energy.

INDEPENDENT CLAIMS are also included for the following:

(1) a device used in the above method; and

(2) a method for altering transport of chemical or biological agents into or through biological materials or cell viability in a human or other animal using acoustic energy, where the biological materials or cells are at a site distant from the site of application of the acoustic energy, comprising administering acoustic energy at one or more frequencies by applying a transducer to a first site on the human or other animal, where the acoustic energy alters transport or cell viability at a second site in the human or other animal distant from the first site.

USE - The acoustic energy can be used to alter the permeability of biological materials to a chemical or biological agent, e.g. peptides, proteins, sugars, polysaccharides, nucleotides, polynucleotide molecules, synthetic organic compounds, synthetic inorganic compounds and combinations or aggregates.

It is also used to kill cells. (all claimed).

The agent may be in the form of cells or virus particles, nano or microparticles, liposomes or other lipid vesicles or emulsions. The methods can also be used for treating tumor cells, for the measurement of analytes, removal of fluid, alteration of cell or tissue viability or alteration of structure of materials such as kidney or gall bladder stones.

ADVANTAGE - By monitoring the effects of the acoustic energy, the efficiency of the methods is improved and optimized results are obtained as treatment progresses.

pp; 39 DwgNo 0/8

10/AB/15 (Item 3 from file: 351)

DIALOG(R)File 351:Derwent WPI

010762029
WPI Acc No: 1996-258984/199626
Related WPI Acc No: 1997-131733; 1998-119913
XRAM Acc No: C96-081892
Filtering and collecting suspensions esp. for flow cytometry procedures - using tubular container and closure having inner and outer skirts with filter in orifice of bottom of inner skirt
Patent Assignee: BECTON DICKINSON CO (BECT)
Inventor: FLEMING T; FUKUSHIMA S; KAYAL J J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5518612	A	19960521	US 94298247	A	19940830	199626	B

Priority Applications (No Type Date): US 94298247 A 19940830
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5518612	A		9	B01D-029/085	

Abstract (Basic): US 5518612 A
Appts has a container (12) with a closure (14). The container has a tubular chamber with an annular sealing ring (28) at the top of its outside surface. The closure has two annular skirts. The outer skirt (56) extends between the top and bottom parts of the closure. The inner skirt (62) is inverted and extends from the top part towards the bottom part. Both skirts have protrusions (76, 78) on their inner surfaces. An orifice (74) in the bottom of the inner skirt is covered with a filter. Pref. the appts. is of polyethylene, polypropylene or PVC .
USE - Filtering and collecting suspensions used in immunological studies, esp. flow cytometry procedures.
Dwg.4/6

10/AB/16 (Item 4 from file: 351)
DIALOG(R)File 351:Derwent WPI

009692977
WPI Acc No: 1993-386531/199348
Related WPI Acc No: 1993-167659; 1993-235188; 1994-326470; 1995-263191; 1995-301577; 1995-344068; 1995-365843; 1996-179287; 1996-517879; 1997-384236; 1998-178451
XRAM Acc No: C93-171947
Fluorescent polymeric microparticles with long Stokes shift - contg. series of dyes with overlapping excitation and emission spectra, esp. used as nucleic acid assay probes
Patent Assignee: MOLECULAR PROBES INC (MOLE-N)
Inventor: BRINKLEY J M; HAUGLAND R P; SINGER V L
Number of Countries: 020 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9323492	A1	19931125	WO 93US4334	A	19930507	199348	B
EP 596098	A1	19940511	EP 93913815	A	19930507	199419	
			WO 93US4334	A	19930507		
US 5326692	A	19940705	US 92882299	A	19920513	199426	
JP 7508309	W	19950914	WO 93US4334	A	19930507	199545	
			JP 94502684	A	19930507		
US 5326692	B1	19960430	US 92882299	A	19920513	199623	

EP 596098	B1	19980617	EP 93913815	A	19930507	199828	
			WO 93US4334	A	19930507		
DE 69319205	E	19980723	DE 619205	A	19930507	199835	
			EP 93913815	A	19930507		
			WO 93US4334	A	19930507		
CA 2113106	C	20001024	CA 2113106	A	19930507	200059	
			WO 93US4334	A	19930507		

Priority Applications (No Type Date): US 92882299 A 19920513
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9323492	A1	E	43	C09K-011/06	
Designated States (National): CA JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
EP 596098	A1	E		C09K-011/06	Based on patent WO 9323492
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE					
US 5326692	A		18	C12Q-001/68	
JP 7508309	W			C09K-011/07	Based on patent WO 9323492
US 5326692	B1			C12Q-001/68	
EP 596098	B1	E		C09K-011/06	Based on patent WO 9323492
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE					
DE 69319205	E			C09K-011/06	Based on patent EP 596098
					Based on patent WO 9323492
CA 2113106	C	E		C12Q-001/68	Based on patent WO 9323492

Abstract (Basic): WO 9323492 A

Novel fluorescent microparticles (A) are prepd. by incorporating in a polymeric microparticle a series of dyes (I) including an initial donor dye (ID) with a desired excitation peak and a final acceptor dye (IA) with a desired emission peak. Each (I) in the series has sufficient spectral overall to allow significant transfer of excitation energy.

Pref. the spectral overlap allows more than 90% (esp. more than 95%) energy transfer. Pref. the total (I) concn. is less than 10 wt.% and the ratio of (ID) to (IA) is 1:5 to 10:1 (A) opt. also includes a covalently bound or passively adsorbed bioreactive substance. Also claimed is a nucleic acid detection method using (A) as probe.

The microparticles are pref. of polystyrene, brominated polystyrene, nitrocellulose, polyacrylic acid, polyacrylonitrile, polyacrylamide, polyacrolein, polydimethylsiloxane, polybutadiene, polyesoprene, polyurethane, polystiayl acetate, PVC , polyvinylpyridine , polyvinylbenzyl chloride , polyvinyltoluene, polyvinylidene chloride or polydivinylbenzene. Particle dia. is less than 15 microns.

USE/ADVANTAGE - (A) are useful in the high sensitivity detection and analysis of biomolecules (e.g. DNA or RNA) and in flow cytometry and microscopy analytical techniques, e.g. in diagnostics. Use of multiple dyes (I) provides an increased Stokes shift. The wavelength of excitation and the magnitude of the Stokes shift are easily controlled by appropriate selection of (I). As probes in DNA, or RNA hybridistion assays, (A) provide detection limits comparable with radioactivity, are chemically stable, can be coupled to antibodies for sec. detection and signal enhancement and can be used for simultaneous or sequential detection of different species. The long Stokes shift allows use in autofluorescent or pigment- contg. samples. Surfaces of (A) can be modified, e.g. to provide hydrophilicity or reduce non-specific binding.

Dwg.0/3

Abstract (Equivalent): US 5326692 A
Fluorescent microparticle (FM) are made by (a) selecting a series of dyes comprising an initial donor dye with a desired excitation peak and a final acceptor dye with a desired emission peak, which are determined in a polymeric material (PM) comprising polymerisable monomers, each dye having a spectral overlap sufficient to allow for significant energy transfer of excitation energy to the final acceptor dye; and (b) incorporating the dyes randomly in a polymeric microparticle comprising PM.
USE/ADVANTAGE - For controlled enhancement of the Stokes shift. The FM's are useful in detection and analysis of bio-molecules such as DNA and RNA that require a very high sensitivity and a flow cytometric and microscopy analytical techniques.
Dwg.0/3

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?show files
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         (c) 2001 Contains copyrighted material
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         (c) 2001 INIST/CNRS
File 155:MEDLINE(R) 1966-2000/Dec W4
         (c) format only 2000 Dialog Corporation
File 342:Derwent Patents Citation Indx 1978-00/200105
         (c) 2001 Derwent Info Ltd
File 351:Derwent WPI 1963-2000/UD,UM &UP=200108
         (c) 2001 Derwent Info Ltd
File 357:Derwent Biotechnology Abs 1982-2001/Apr B1
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S2          5   RD (unique items)
?t s2/3 ab/1-5
>>>No matching display code(s) found in file(s): 65, 342

 2/AB/1     (Item 1 from file: 2)
DIALOG(R)File   2:INSPEC
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6672896   INSPEC Abstract Number: A2000-18-8770G-004, B2000-09-7520-010
 Title: Flow cytometry systems for drug discovery and development
  Author(s):  Ransom,  J.T.;  Edwards,  B.S.  ; Kuckuck, F.W. ; Okun, A.;
Mattox, D.K.; Prossnitz, E.R.; Sklar, L.A.
```

Author Affiliation: Axiom Biotechnol., San Diego, CA, USA
Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3921 p.90-100
Publisher: SPIE-Int. Soc. Opt. Eng,
Publication Date: 2000 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(2000)3921L.90:FCSD;1-W
Material Identity Number: C574-2000-122
U.S. Copyright Clearance Center Code: 0277-786X/2000/$15.00
Conference Title: Optical Diagnostics of Living Cells III
Conference Sponsor: SPIE; IBOS-Int. Biomed. Opt. Soc
Conference Date: 24-25 Jan. 2000 Conference Location: San Jose, CA, USA
Language: English
Abstract: HT-PS is a fluidics-based pharmacology platform that uses viable cells and test compounds to rapidly identify active compounds and immediately determine their potency and specificity. Axiom employs this proprietary flow-through fluidics system coupled to a flow cytometer (FCM) as a detection system. Integration of FCM was enabled through a Plug-Flow Coupler (PFC) device that allows mixtures of cells and test compounds to be delivered to the FCM as discrete plugs of samples under positive air pressure. An FCM detector provides the advantages of multi parametric measurements and multiplexed, single cell analyses. Assays that combine two or more compatible, fluorescent bioresponse indicators simultaneously, such as measurements of intracellular pH and Ca/sup 2+/, are possible. Alternatively, measurements of one or more bioresponses can be performed on several distinct cell populations individually stained with uniquely addressable fluorescent chromophores. These formats enable multiple experiments on a single sample and provide high content information thereby greatly increasing decision-making power regarding the activity, potency and selectivity of a test compound. Development of significant data with several hundred cells enables reduction in all requisite sample volumes. The PFC enables FCM sample analysis rates of at least 10 samples/minute. The data will illustrate HT-PS/PFC/FCM utility in the drug discovery arena.
Subfile: A B

2/AB/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12610897 BIOSIS NO.: 200000364399
Analysis of free intracellular calcium by flow cytometry: Multiparameter and pharmacologic applications.
AUTHOR: Burchiel Scott W(a); Edwards Bruce S ; Kuckuck Fritz W ; Lauer Fredine T(a); Prossnitz Eric R; Ransom John T; Sklar Larry A
AUTHOR ADDRESS: (a)College of Pharmacy, Toxicology Program, University of New Mexico, Albuquerque, NM, 87131**USA
JOURNAL: Methods (Orlando) 21 (3):p221-230 July, 2000
MEDIUM: print
ISSN: 1046-2023
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Flow cytometry offers numerous advantages over traditional techniques for measuring intracellular Ca2+ in lymphoid and nonlymphoid cells. In particular, the heterogeneity of cell responses can be defined

by flow cytometry, and multiparameter analyses permit the determination of intracellular Ca2+ in surface-marker-defined target cells as well as correlation of changes in Ca2+ with other biochemical markers, including ligand binding. This article presents several established methods for measuring intracellular Ca2+ by flow cytometry in lymphoid and nonlymphoid cells. Examples are provided for determination of Ca2+ in human peripheral blood leukocytes and two human epithelial cell lines grown in monolayer. In addition, applications are reviewed or presented for correlating changes in intracellular Ca2+ with other cell parameters, including cell cycle analysis, changes in cell membrane integrity, and the induction of apoptosis markers. Finally, a number of novel sample handling capabilities useful for performing kinetic analyses of Ca2+ changes by flow cytometry are now available and one application is presented which is finding utility in pharmacologic studies.

2000

2/AB/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12208012 BIOSIS NO.: 199900502861
Plug flow cytometry: An automated coupling device for rapid sequential flow cytometric sample analysis.
AUTHOR: Edwards Bruce S ; Kuckuck Frederick ; Sklar Larry A (a
AUTHOR ADDRESS: (a)CRTC, University of New Mexico, 2325 Camino de Salud, Albuquerque, NM, 87131**USA
JOURNAL: Cytometry 37 (2):p156-159 Oct. 1, 1999
ISSN: 0196-4763
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Background: The tools for high throughput flow cytometry have been limited in part because of the requirement that the samples must flow under pressure. We describe a simple system for sampling repetitively from an open vessel. Methods: Under computer control, the sample is loaded into a sample loop in a reciprocating eight-way valve by the action of a syringe. When the valve position is switched, the plug of sample in the sample loop is transported to the flow cytometer by a pressure-driven fluid line. By coupling the plug-forming capability to a second multi-port valve, samples can be delivered sequentially from separate vessels. Results: The valve is able to deliver samples at rates ranging up to about 9 samples per minute. Each plug of sample has uniform delivery characteristics with a reproducible coefficient of variation (CV). Even at the highest sampling rate, carryover between samples is limited. Conclusions: Plug-flow flow cytometry has the potential to automate the delivery of small samples from unpressurized sources at rates compatible with many screening and assay applications.

1999

2/AB/4 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

2106946 NTIS Accession Number: DE98003496/XAB
Sample handling for kinetics and molecular assembly in flow cytometry

Sklar, L. A. ; Seamer, L. C. ; Kuckuck, F. ; Prossnitz, E. ; Edwards, B.
National Insts. of Health, Bethesda, MD (United States).
Corp. Source Codes: 888888888
Sponsor: Department of Energy, Washington, DC.
Report No.: LA-UR-98-287
31 Dec 98 10p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9907; ERA9901
BIOS '98: an international symposium on biomedical optics. Sponsored by Department of Energy, Washington, DC.
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NTIS Prices: PC A02/MF A01
Flow cytometry discriminates particle associated fluorescence from the fluorescence of the surrounding medium. It permits assemblies of macromolecular complexes on beads or cells to be detected in real-time with precision and specificity. The authors have investigated two types of robust sample handling systems which provide sub-second resolution and high throughput: (1) mixers which use stepper-motor driven syringes to initiate chemical reactions in msec time frames; and (2) flow injection controllers with valves and automated syringes used in chemical process control. In the former system, the authors used fast valves to overcome the disparity between mixing 100 (micro)ls of sample in 100 msecs and delivering sample to a flow cytometer at 1 (micro) l/sec. Particles were detected within 100 msec after mixing, but turbulence was created which lasted for 1 sec after injection of the sample into the flow cytometer. They used optical criteria to discriminate particles which were out of alignment due to the turbulent flow. Complex sample handling protocols involving multiple mixing steps and sample dilution have also been achieved. With the latter system they were able to automate sample handling and delivery with intervals of a few seconds. The authors used a fluidic approach to defeat turbulence caused by sample introduction. By controlling both sheath and sample with individual syringes, the period of turbulence was reduced to (approximately) 200 msecs. Automated sample handling and sub-second resolution should permit broad analytical and diagnostic applications of flow cytometry.

2/AB/5 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013131979
WPI Acc No: 2000-303850/200026
XRAM Acc No: C00-092360
XRPX Acc No: N00-226968
Apparatus for use in drug discovery has devices moving a sample into sample loops and a reciprocating multi-port valve alternatively connecting loops to carrier flow tube
Patent Assignee: UNIV NEW MEXICO STATE (UYNE-N)
Inventor: EDWARDS B S ; KUCKUCK F W ; SKLAR L A
Number of Countries: 086 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200020873	A1	20000413	WO 99US22974	A	19990929	200026	B
AU 9962847	A	20000426	AU 9962847	A	19990929	200036	

Priority Applications (No Type Date): US 99330259 A 19990610; US 98103044 A 19981005

Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200020873 A1 E 22 G01N-035/08
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
AU 9962847 A G01N-035/08 Based on patent WO 200020873

Abstract (Basic): WO 200020873 A1
Abstract (Basic):
NOVELTY - An apparatus for transferring samples, has at least one device for moving a sample into sample loops, and a reciprocating multi-port valve alternatively connecting the loops to a carrier flow tube so that, as one sample is being transferred from one loop to the tube, another sample is being drawn into a second loop. Each device is either a syringe or a pump.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) a method for drawing an transporting multiple samples, comprising
(a) drawing a sample into a sample loop with a syringe;
(b) changing a valve position;
(c) drawing an additional sample into an additional sample loop with a syringe; and
(d) expelling the first sample from the loop with a carrier fluid, optionally (c) and (d) are performed simultaneously; and
(2) a method for receiving and transporting multiple samples, comprising
(a) pushing a sample into a sample loop with a pump, comprising pushing the sample through at least one reciprocating valve;
(b) changing a valve position, comprising rotating at least one valve to connect the sample loop to a carrier flow tube;
(c) pushing at least one additional sample into an additional sample loop with a pump; and
(d) expelling the first sample from the sample loop with a carrier fluid, optionally (c) and (d) are performed simultaneously.
USE - The apparatus is used for automatically processing multiple plug samples for flow cytometry, used in drug discovery.
ADVANTAGE - The apparatus speeds up automated handling of a large number of samples.
DESCRIPTION OF DRAWING(S) - The drawing shows a sample handling apparatus
syringe (12)
sample (14)
sample loop (16)
valve (18)
pp; 22 DwgNo 1/7
?ds

Set	Items	Description
S1	14	AU=SKLAR? AND AU=EDWARDS? AND AU=KUCKUCK?
S2	5	RD (unique items)
S3	337	FLOW(W)CYTOMET?(W)(SYSTEM? OR APPARAT? OR DEVICE?)
S4	334	S3 NOT S1
S5	184	RD (unique items)
S6	0	S5 AND (PVC OR POLYVINYL OR POLY(W)VINYL OR PERISTALT? OR -HYDROPHOB?(W)PROBE? OR PROBE?(W)TIP? OR MULTISAMPL? OR MULTI(-W)SAMPL? OR AUTOSAMPL? OR AUTO(W)SAMPL?)

```
?s s5 and (air or gas)(5n)(jet? or separat?)
Processing
Processed  10 of  15 files ...
Processing
Completed processing all files
             184  S5
         2394561  AIR
         3133099  GAS
          420134  JET?
         3039377  SEPARAT?
          161219  (AIR OR GAS)(5N)(JET? OR SEPARAT?)
      S7       0  S5 AND (AIR OR GAS)(5N)(JET? OR SEPARAT?)
?ds

Set     Items   Description
S1         14   AU=SKLAR? AND AU=EDWARDS? AND AU=KUCKUCK?
S2          5   RD (unique items)
S3        337   FLOW(W)CYTOMET?(W)(SYSTEM? OR APPARAT? OR DEVICE?)
S4        334   S3 NOT S1
S5        184   RD (unique items)
S6          0   S5 AND (PVC OR POLYVINYL OR POLY(W)VINYL OR PERISTALT? OR -
              HYDROPHOB?(W)PROBE? OR PROBE?(W)TIP? OR MULTISAMPL? OR MULTI(-
              W)SAMPL? OR AUTOSAMPL? OR AUTO(W)SAMPL?)
S7          0   S5 AND (AIR OR GAS)(5N)(JET? OR SEPARAT?)
S8         77   ((POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR PVC) A-
              ND PERISTAL?
S9         58   RD (unique items)
S10         1   S9 AND PROBE?
S11        52   S9 NOT (INSEMINAT? OR GROUNDWATER? OR WINE? OR THROMBO?)
?t s11/3 ab/1-52
>>>No matching display code(s) found in file(s): 65, 342

 11/AB/1     (Item 1 from file: 2)
DIALOG(R)File   2:INSPEC
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02561806   INSPEC Abstract Number: C86005434
 Title: The use of a microprocessor for flexible automation of an
experimental procedure
  Author(s): Sheya, M.S.; Riley, C.
  Author Affiliation: Dept. of Electr. Eng., Univ. of Dar es Salaam,
Tanzania
  Journal: Journal of Automatic Chemistry    vol.7, no.2    p.69-73
  Publication Date: April-June 1985  Country of Publication: UK
  CODEN: JAUCD6  ISSN: 0142-0453
  Language: English
  Abstract: During the development phase of a new design of multichannel
blood-analysis machine it was necessary to perform empirical tests to
determine the exact volumes of specimen to be sampled and volumes of
reagents and diluent to be dispensed during the normal run of the machine.
From the sampling and dispensing mechanisms of the system, fluid was led
through PVC tubing to a multichannel peristaltic pump driven by a
stepper motor. Intel 8080 microprocessor was used to control and run the
pump-stepper motor assembly in the STEP, REV and PRE-PROGRAMMED modes by
issuing simple keyboard commands. For ease of program design, subhigh-level
language PL8080 was used. Program development was done on time-sharing
basis, with the aid of an ICL 1902s mainframe computer which has a cross
compiler. The compiled object program in Intel 8080 object code was then
down-loaded into the microcomputer kit for debugging, testing and running.
  Subfile: C
```

11/AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

02292680 INSPEC Abstract Number: A84082316, B84044924
Title: An intercomparison of sampling devices and analytical techniques using sea water from a cepex enclosure
Author(s): Wong, C.S.; Kremling, K.; Riley, J.P.; Johnson, W.K.; Stukas, V.; Berrang, P.G.; Erickson, P.; Thomas, D.; Peterson, H.; Imber, B.
Author Affiliation: Ocean Chem. Div., Inst. of Ocean Sci., Sidney, BC, Canada
Conference Title: Trace Metals in Sea Water. Proceedings of the NATO Advanced Research Institute p.175-93
Editor(s): Wong, C.S.; Boyle, E.; Bruland, K.W.; Burton, J.D.; Goldberg, E.D.
Publisher: Plenum, New York, NY, USA
Publication Date: 1983 Country of Publication: USA xiv+920 pp.
ISBN: 0 306 41165 2
Conference Date: 30 March-3 April 1981 Conference Location: Erice, Italy
Language: English
Abstract: An intercomparison of sampling devices was conducted using sea water at 9 m in a plastic enclosure of 65 m/sup 3/ in Saanich Inlet, BC, Canada. The sampling methods were (i) peristaltic pumping with teflon tubing, (ii) Niskin PVC sampler, (iii) Go-Flow sampler, (iv) close-open-close sampler, and (v) teflon-piston sampler. Sampling was conducted for 4 days: Day 1 (2 August, 1978) for mercury, Day 2 for lead, cadmium, copper, cobalt and nickel by Chelex extraction and differential pulse polarography (DPP) as well as manganese by Chelex and flameless atomic absorptiometry (FAA), Day 3 for lead by isotope dilution and Day 4 for cadmium, copper, iron, lead, nickel and zinc by freon extraction and FAA.
Subfile: A B

11/AB/3 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

07008568 BIOSIS NO.: 000089100451
PARTICLE SPALLATION AND PLASTICIZER DEHP RELEASE FROM EXTRACORPOREAL CIRCUIT TUBING MATERIALS
AUTHOR: HOENICH N A; THOMPSON J; VARINI E; MCCABE J; APPLETON D
AUTHOR ADDRESS: DEP. MED., SCH. MED. CLIN. SCI., THE UNIV., NEWCASTLE UPON TYNE NE1 7RU, UK.
JOURNAL: INT J ARTIF ORGANS 13 (1). 1990. 55-62. 1990
FULL JOURNAL NAME: International Journal of Artificial Organs
CODEN: IJAOD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Particle spallation and plasticiser (DEHP) release from medical grade polyvinylchloride (PVC), co-extruded PVC -polyurethane (PIVIPOL)R and an experimentally produced co-extruded PVC -ethylene vinyl acetate (EVA) has been studied when used with manually occluded and self-occluding peristaltic pumps over a six hour pumping period. The shore hardness of the tubings studied were similar but the luminal coating thickness differed (0.2 mm polyurethane, 0.99 mm EVA). The pattern of particle release was similar for all materials on the pump type used with the majority of particles released being less than 5

microns in diameter. The number of particles greater than 5 microns released was independent of the tubing material but depended on the pump type. Particle release with self-occluding pumps was significantly higher ($p < 0.001$) than for the manually occluded pump. Scanning electron microscopy indicated that the particles released originate from the repeated compression and flexing of the insert during pumping which leads to material structural failure. The higher release observed in the case of self-occluding pumps is suggestive of over-occlusion by the springs utilised in the pump. DEHP release (ppm) over a six hour period while perfused at 300 ml/min was significantly reduced for co-extruded tubing (0.56 .+-. 0.05 mg (PVC -polyurethane) and 0.12 .+-. 0.04 mg (PVC -EVA)) compared with PVC (0.74 .+-. 0.05 mg).

1990

11/AB/4 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05569203 BIOSIS NO.: 000083042343
A HORIZONTAL INTRAGRAVEL PIPE FOR SAMPLING WATER QUALITY IN SALMONID SPAWNING GRAVEL
AUTHOR: HOFFMAN R J
AUTHOR ADDRESS: U.S. GEOLOGICAL SURVEY, ROOM 227, FEDERAL BUILDING, 705 NORTH PLAZA STREET, CARSON CITY, NEVADA 89701, USA.
JOURNAL: N AM J FISH MANAGE 6 (3). 1986. 445-448. 1986
FULL JOURNAL NAME: North American Journal of Fisheries Management
CODEN: NAJMD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A new sampler, the horizontal intragravel pipe, was developed for collecting samples of intragravel water in salmonid spawning gravel. The device is a 2.54 .times. 76.2-cm length of slotted polyvinyl chloride pipe that is buried perpendicular to flow in the streambed. The slots (about 320/pipe) through which the intragravel water flows were cut perpendicular to the long axis of the pipe. Each slot is 1.9 cm long by 0.15 mm wide. A rigid plastic tube (0.64 cm inside diameter) centered axially within the intragravel pipe is perforated with three 3.2-mm holes equally spaced along its length to distribute equally the effect of pumping. The interior tube is connected by Tygon tubing to a peristaltic pump on a platform above the water surface. Intragravel water is pumped to containers for on-site measurements of dissolved oxygen, pH, and specific conductance, and for determination of other constituents in the laboratory. The principal advantages of a horizontal intragravel pipe are that a substantial quantity of water can be withdrawn for analysis, and samples of water may be integrated across an artificial redd.

1986

11/AB/5 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

0757161 NTIS Accession Number: PB-293 570/8/XAB
A Study of an Electrodeless Glow Discharge as a Means of Modifying the Surface of Polymers
(Annual rept. 1 Dec 77-30 Nov 78)
Morosoff, N. ; Yasuda, H. ; Hill, B.

Research Triangle Inst., Research Triangle Park, NC.
Corp. Source Codes: 304400
Sponsor: National Health and Lung Inst., Bethesda, MD. Devices and Technology Branch.
Report No.: NIH-N01-HV-3-2913-6
Feb 79 41p
Languages: English
Journal Announcement: GRAI7914
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NTIS Prices: PC A03/MF A01
The nature of a plasma polymer will depend on the reactor, location within the reactor where it is deposited and on power and flow rate (W/FM) for a given monomer as well as on the monomer used. The variations in chemical nature of plasma polymers to be found as a function of location and the ratio of power to flow rate (W/FM) are demonstrated for a series of siloxane monomers in two different reactors. It is demonstrated that by judicious selection of location, power and flow rate, identical polymer can be deposited in both reactors using a given monomer. Plasma polymer of tetramethyldisiloxane is deposited inside polyvinyl chloride tubing. The amount of material introduced into water flowing through such tubing in a flex test (peristaltic pump) is reduced in such a coated tubing as compared to the uncoated control.

11/AB/6 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05626625
E.I. No: EIP00085281976
Title: Measuring vertical profiles of hydraulic conductivity with in situ direct-push methods
Author: Cho, Jong Soo; Wilson, John T.; Beck, Frank P. Jr.
Corporate Source: Environmental Strategies and Applications, Inc, Middlesex, NJ, USA
Source: Journal of Environmental Engineering v 126 n 8 Aug 2000. p 775-777
Publication Year: 2000
CODEN: JOEEDU ISSN: 0733-9372
Language: English
Abstract: U.S. EPA (Environmental Protection Agency) staff developed a field procedure to measure hydraulic conductivity using a direct-push system to obtain vertical profiles of hydraulic conductivity. Vertical profiles were obtained using an in situ field device - composed of a Geoprobe direct-push drive, threaded steel pipes with an open-slotted section, and a drive point at the bottom - PVC tubing, and a peristaltic pump. Simple mathematical formulas were derived for estimating hydraulic conductivity from the field measurements. The field procedure and mathematical formulas were applied in an unconfined sand aquifer. A vertical profile of hydraulic conductivity at a measurement location was plotted with the value obtained from a conventional slug test from a nearby monitoring well. The hydraulic conductivity in the middle of the aquifer was found to be an order of magnitude higher than that at the water table depth. The conductivity from the slug test at the monitoring well was half of the maximum value in the profile. The in situ direct-push method provided valuable information on site characterization in a short time, with minimal disturbance and without installing additional wells. (Author abstract) 4 Refs.

11/AB/7 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04458314
E.I. No: EIP96073258751
Title: Immobilization in fixed film reactors: an ultrastructural approach
Author: Harendranath, C.S.; Anuja, K.; Singh, Anju; Gunaseelan, A.; Satish, K.; Lala, Krishna
Corporate Source: Indian Inst of Technology, Bombay, India
Conference Title: Proceedings of the 1995 3r IAWQ Specialized Conference on Appropriate Waste Management Technologies for Developing Countries
Conference Location: Nagpur, India Conference Date: 19950225-19950226
E.I. Conference No.: 45060
Source: Water Science and Technology v 33 n 8 1996. p 7-15
Publication Year: 1996
CODEN: WSTED4 ISSN: 0273-1223
Language: English
Abstract: An ultrastructural approach has been attempted to study the surface features of 29 packing media reported in literature and a few more potential candidates for immobilizing micro-organisms. The electron micrographs reveal important features like degree of smoothness/roughness, microcrystals and fibres, ridges, macro and micro pores left angle bracket 196 right angle bracket their dimensions, depth and distribution and thereby the biomass accumulation capacity of the media. Based on microscopic observations the packing media have been classified as (i) smooth - polypropylene bead, glass bead, peristaltic tube, porcelain, powdered activated carbon, perspex, polyvinyl chloride and glass (ii) uneven - straw, paddy stem, nylon, sand, gravel and stone (iii) porous - jute, gravel, soil, granulated clay, limestone, ceramic, shell, refractory brick, diatomaceous earth, casuarina seed, granular activated carbon thermocol, sponge, pumice stone and polyurethane foam. The results clearly show that ultrastructural examination and image analysis can be a quick, effective and direct visual technique for selecting support media for bioreactors. An example of application of quantitative image analysis for providing quantitative geometric description of surface features is also presented. (Author abstract) 27 Refs.

11/AB/8 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01350590
E.I. Monthly No: EI8305031842
E.I. Yearly No: EI83008509
Title: CALIBRATION OF TWO ENTERAL FEEDING SYSTEMS.
Author: Fisher, J.; Walls, J.; Osborne, D.; Shaw, A.
Corporate Source: West of Scotl Health Boards, Glasgow
Source: Journal of Medical Engineering & Technology v 6 n 1 Jan-Feb 1982 p 32-33
Publication Year: 1982
CODEN: JMTEDN ISSN: 0309-1902
Language: ENGLISH
Abstract: Enteral feeding systems deliver pre-set flows of nutritional fluids to the patient at flow rates which can be varied from about 25 to 300 ml per hour. This report describes the performances of two of the three systems readily available in the UK: the Vygon and Clinifeed systems. Enteral feeding systems consist of a fluid reservoir, an administration set

and a peristaltic pump. The administration sets, which are unique to each system, consist of a short length of easily compressed silicon tubing, contained between two longer lengths of ordinary PVC tubing. The silicon tube is wrapped around the rotor of the peristaltic pump. Couplings, at each end of the silicon tube, slot into the pump body to hold the tube in place under tension. The silicon tube is occluded as it stretches round each roller on the pump rotor, which is driven by an electric motor to produce peristaltic pumping action. The motor speed, and hence the flow delivered, is controlled by a potentiometer attached to a knob and scale graduated in ml/hr. Both systems delivered flows that were higher than the setting, with the error most significant at low flows. Some of these errors can be avoided if the operator takes special care when inserting the administration set in the pump.

11/AB/9 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04530396 Genuine Article#: TQ260 Number of References: 15
Title: A PORTABLE FLOW-INJECTION ANALYZER FOR USE WITH ION-SELECTIVE ELECTRODES (Abstract Available)
Author(s): DIMITRAKOPOULOS T; ALEXANDER PW; HIBBERT DB; CHERKSON L; MORGAN J
Corporate Source: UNIV TASMANIA,DEPT PHYS SCI,POB 1214/LAUNCESTON/TAS 7250/AUSTRALIA/; UNIV TASMANIA,DEPT PHYS SCI/LAUNCESTON/TAS 7250/AUSTRALIA/; UNIV NEW S WALES,DEPT ANALYT CHEM/KENSINGTON/NSW 2033/AUSTRALIA/
Journal: ELECTROANALYSIS, 1995, V7, N12 (DEC), P1118-1120
ISSN: 1040-0397
Language: ENGLISH Document Type: ARTICLE
Abstract: A battery powered portable monitor based on flow injection potentiometry has been developed weighing 1.8 kg, constructed in a carry-case and applicable for remote site monitoring. Portability has been achieved using a light weight rechargeable Ni-Cd battery-pack (7.2 V). The flow injection manifold incorporates a low powered peristaltic pump, a wall-jet type flow cell containing a commercial iodide ion-selective electrode and a Ag/AgCl reference electrode connected to an analog-to-digital converter, also powered by the battery pack, and a RS232-serial output to a notebook computer for real-time data display and storage. The system performance has been evaluated using the iodide ion-selective electrode, including the effects of various carrier solutions on sample peak heights, peak widths and the calibration slopes and working ranges. Fast response with peak widths as low as approximately 10 s. was observed with near Nernstian response of -53.8 mV change per activity decade and a log-linear range between 5 x 10(-6) and 1 x 10(-2) M in a 0.1 M sodium acetate carrier stream.

11/AB/10 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

04428083 EMBASE No: 1990316192
Effect of a partial PVC-based intravenous administration set on the delivery of intravenous nitroglycerin
Tracy T.S.; Bowman L.; Black C.D.
Department of Pharmacy Practice, School of Pharmacy and Pharmacal Sciences, Purdue University, West Lafayette, IN United States
Infusion (INFUSION) (United States) 1989, 13/5 (9-15)
CODEN: INFUD ISSN: 0160-757X

DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Intravenous nitroglycerin (NTG) is used successfully in the treatment of many critical cardiovascular conditions including angina pectoris, congestive heart failure, hypertension associated with cardiovascular surgery and controlled arterial hypertension. Intravenous (IV) administration of the drug, however, is hampered by its lipophilic nature and propensity to adsorb onto various plastic components of IV administration systems. Special tubing has been constructed to avert this adsorption problem but the relative opacity and lack of pliability of the polyethylene-lined (PEL) sets has resulted in the continued use of polyvinyl chloride (PVC) sets. Studies have demonstrated the interference of PVC components with NTG delivery in IV containers, burettes, filters, and administration sets. Studies examining the advantages of PEL tubings have demonstrated little or no loss of NTG when administered through these tubings. However, previous research with PEL administration sets with 13 percent PVC components demonstrated up to 50 percent loss of NTG when the NTG was delivered at a rate of 12 mL/h, and administration sets have resulted in substantial NTG loss when delivered through a volumetric pump. The loss in the latter study was due to the cassette in the infusion pump and not to the tubing itself and thus, minimizing some advantages of that PEL delivery system. A new IV delivery system with a transparent PVC drip chamber and pliable silastic segment for use in a peristaltic pump has recently been introduced and may provide the reliability and convenience features desired for NTG administration without the problems inherent in PVC systems or in cassette-based PEL systems. This system consists of polyethylene-lined tubing, a PVC drip chamber, and a silastic segment for insertion in a peristaltic pump. However, the potential loss of NTG due to exposure to the non-polyethylene lined components of this system is not known. This study evaluates the adsorption and delivery of NTG through this new intravenous administration set and compares it to delivery through an identical set composed of PVC rather than PEL tubing.

11/AB/11 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

04131754 EMBASE No: 1990014296
Nitroglycerin delivery through a polyethylene-lined intravenous administration set
Tracy T.S.; Bowman L.; Black C.D.
Division of Clinical Pharmacology, Indiana University School of Medicine, Indianapolis, IN United States
American Journal of Hospital Pharmacy (AM. J. HOSP. PHARM.) (United States) 1989, 46/10 (2031-2035)
CODEN: AJHPA ISSN: 0002-9289
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Adsorption and delivery of nitroglycerin through a new polyethylene-lined (PEL) i.v. administration set was compared with adsorption and delivery through an identical set composed of polyvinyl chloride (PVC) rather than PEL tubing. The new delivery system consisted of PEL tubing, a transparent PVC chamber, and a silastic segment for insertion in a peristaltic pump. Nitroglycerin was prepared in concentrations of 50, 125, and 200 mug/mL in 0.9% sodium chloride injection and run through both administration sets at flow rates of 12 and 60 mL/hr. Samples were obtained at 0, 0.5, 1, 2, 4, and 8 hours from each of three sites: bottle, junction

before silastic segment, and distal end of tubing. Nitroglycerin content was assayed using a modified high-performance liquid chromatography technique. A slight but significant average loss of nitroglycerin (2.3 +/- 9.3%) was observed at the distal end with the PEL set, whereas the PVC set showed a significant average nitroglycerin loss of 39.7 +/- 12.7% at the distal end. These differences were independent of infusion rate, nitroglycerin concentration, or time of sampling. Flow rate, concentration, and time had no significant effect on nitroglycerin adsorption with the PEL set, but all three had a significant effect on nitroglycerin adsorption with the PVC set. An unexpected finding was the approximately 14% loss of nitroglycerin from the admixture bottle over time. This phenomenon, which has been observed by other investigators, needs further investigation to determine its cause. It appears that a partially PVC -based administration set should provide consistent delivery of i.v. nitroglycerin to the patient.

11/AB/12 (Item 1 from file: 103)
DIALOG(R)File 103:Energy SciTec

03783136 EDB-95-026904
Title: Effect of lime addition on the leachate chemistry of a Pennsylvania coal minesoil
Author(s): Tarutis, W.J. Jr.; Oram, B.F. (Wilkes Univ., Wilkes-Barre, PA (United States))
Title: Proceedings of the international land reclamation and mine drainage conference and third international conference on the abatement of acidic drainage. Volume 2: Mine drainage -- SP 06B-94
Conference Title: International land reclamation and mine drainage conference and 3rd international conference on the abatement of acidic drainage
Conference Location: Pittsburgh, PA (United States) Conference Date: 24-30 Apr 1994
Publisher: Washington, DC (United States) Government Printing Office
Publication Date: 1994 p 426 (438 p)
Report Number(s): CONF-940404--
Language: English
Abstract: The effect of lime addition on the leachate chemistry of an acidic (pH 3) coal minesoil is currently being studied using batch and continuous-flow (column) reactors. Minesoil was collected from a spoil pile located in the anthracite coal region at Wilkes-Barre, Pennsylvania. The soil was sieved to obtain the < 4.6-mm fraction used in all experiments. This fraction was analyzed for pH, electrical conductivity (EC), cation exchange capacity, SMP lime requirement (exchangeable acidity), organic matter content, and total sulfur content (potential acidity). Preliminary experiments using batch equilibrations of minesoil and water (1:1) to which different amounts of lime were added (1, 2, 4, and 6% calcium carbonate equivalent, dry weight basis) revealed a pH increase of 1--2 units within 5 minutes, followed by a similar increase in pH over the subsequent 2-week period. Lime requirement values based on total sulfur content were then used for column studies. Leaching experiments are currently underway and consist of duplicate 7.5-cm PVC columns filled with sieved minesoil (with or without added lime) and continuously leached with distilled water applied to each column by a peristalic pump capable of delivering up to 7 ml/min. Leachate from each column will be collected at known pore-volume intervals and analyzed for pH, EC, Fe, Mn, Ca, Mg, alkalinity, and SO[sub 4] using standard procedures. The results obtained will contribute to an understanding of the processes controlling the leachate chemistry of minesoils in the region and will

supplement current research on reclaiming coal-mined land in the vicinity.

11/AB/13 (Item 2 from file: 103)
DIALOG(R)File 103:Energy SciTec

03565271 EDB-93-144149
Title: Comparison of volatile organic compounds sampling losses from selected devices
Author(s): Edwards, M.; Beard, L.M.; Young, S.C. (Tennessee Valley Authority, Norris, TN (United States). Engineering Lab.)
Conference Title: Association of Ground Water Scientists and Engineers (AGWSE) educational seminar on chlorinated volatile organic compounds in ground water
Conference Location: Kansas City, MO (United States) Conference Date: 17-20 Oct 1993
Source: Ground Water (United States) v 31:5. Coden: GRWAAP ISSN: 0017-467X
Publication Date: Sep-Oct 1993 p 836-837
Report Number(s): CONF-9310166--
Language: English
Abstract: For a highly heterogeneous aquifer in Columbus, MS, the Tennessee Valley Authority required a reliable sampling method to perform a large-scale natural gradient tracer test involving naphthalene, benzene, ortho-dichlorobenzene and para-xylene at concentrations below 3 mg/1. The site for the tracer test had been instrumented with over 300 wells consisting of 20 to 30 1/16 inch ID teflon tubing strapped onto a 1 inch OD PVC pipe. Results from field experiments indicated that sampling from a well with a bailer or a small diameter tube coupled to a peristaltic pump produced sampling losses from sampling losses, a laboratory well was built to measure VOC losses from sampling with small-diameter tubes coupled with a peristaltic pump, BAT[reg sign] and BarCad[reg sign] sampling systems.

11/AB/14 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14779133 PASCAL No.: 00-0458645
Measuring vertical profiles of hydraulic conductivity with in situ direct-push methods
JONG SOO CHO; WILSON J T; BECK F P JR
Environmental Strategies and Applications, Inc., 495 Union Ave., Ste. 1D, Middlesex, N.J. 08873, United States; U.S. EPA, Ofc. of Res. and Devel., Nat. Risk Mgmt. Res. Lab., Subsurface Protection and Remediation Div., 919 Kerr Research Dr., Ada, OK 74820, United States
Journal: Journal of environmental engineering : (New York, NY), 2000, 126 (8) 775-777
Language: English
U.S. EPA (Environmental Protection Agency) staff developed a field procedure to measure hydraulic conductivity using a direct-push system to obtain vertical profiles of hydraulic conductivity. Vertical profiles were obtained using an in situ field device-composed of a Geoprobe direct-push drive, threaded steel pipes with an open-slotted section, and a drive point at the bottom-PVC tubing, and a peristaltic pump. Simple mathematical formulas were derived for estimating hydraulic conductivity from the field measurements. The field procedure and mathematical formulas were applied in an unconfined sand aquifer. A vertical profile of hydraulic conductivity at

a measurement location was plotted with the value obtained from a conventional slug test from a nearby monitoring well. The hydraulic conductivity in the middle of the aquifer was found to be an order of magnitude higher than that at the water table depth. The conductivity from the slug test at the monitoring well was half of the maximum value in the profile. The in situ direct-push method provided valuable information on site characterization in a short time, with minimal disturbance and without installing additional wells.

11/AB/15 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

04291060 PASCAL No.: 75-0010080
LES CANALISATIONS EN MATIERE PLASTIQUE ET LEUR EMPLOI DANS LE BATIMENT ET L'INDUSTRIE
DE BAULIEU J-P
Journal: REV. TECH. BATIM. CONSTR. INDUSTR., 1974, 21 (45) 32-36
Language: FRENCH
DESCRIPTION DE POMPES EN MATIERES PLASTIQUES DONT LES ELEMENTS SONT MOULES SOUS PRESSION OU USINES DANS LA MASSE. POMPES CENTRIFUGES, POMPES A MEMBRANES. POMPES A PISTON. POMPE PERISTALTIQUES . CARACTERISTIQUES ET DOMAINES D'APPLICATION DES MATERIAUX UTILISES PVC , PTFE ET POLYPROPENE)

11/AB/16 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04935256 86295153
Particle spallation induced by blood pumps in hemodialysis tubing sets.
Barron D; Harbottle S; Hoenich NA; Morley AR; Appleton D; McCabe JF
Artificial organs (UNITED STATES) Jun 1986, 10 (3) p226-35, ISSN 0160-564X Journal Code: 8ZK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The repeated flexion and compression of pump segments by the rollers of peristaltic pumps results in cracking and abrasion of the inner surfaces of the pump segment, leading to shedding of particles into the extracorporeal circuit. A series of studies to assess the rate of particle release from silicone rubber, polyvinyl chloride (PVC), and Pivipol, a coextruded polyurethane-coated PVC tubing, when these materials were used with blood pumps of the type found in hemodialysis units, was undertaken. The studies show that with all tubing/pump combinations there is an overall increase in the total number of particles released, but an analysis of the particle size distribution indicates that the majority of the particles are less than 16 micron in diameter. The rate of increase may be reduced, however, by decreasing the occlusion pressure.

11/AB/17 (Item 1 from file: 342)
DIALOG(R)File 342:Derwent Patents Citation Indx

00981375 WPI Acc No: 92-383747/47
Replaceable tube set for arthroscopic surgical irrigation system - has three bonded PVC tubes separated at their ends to connect saline bottle and peristaltic pump with insertion and drainage cannulae

Patent Assignee: (MINN) MINNESOTA MINING & MFG CO
Author (Inventor): DESATNICK A H; MARCUS H D; MERTE K E
Patent (basic)
Patent No Kind Date Examiner Field of Search
EP 513858 A2 921119 (BASIC)
Derwent Week (Basic): 9247
Priority Data: US 942271 (861216)
Applications: DE 3751711 (871203); EP 92112766 (871203)
Designated States
(Regional): DE; FR; GB
Derwent Class: P34
Int Pat Class: A61M-001/00; A61M-003/02
Number of Patents: 004
Number of Countries: 003
Number of Cited Patents: 005
Number of Cited Literature References: 000
Number of Citing Patents: 000

11/AB/18 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013215575
WPI Acc No: 2000-387449/200033
XRAM Acc No: C00-117565
XRPX Acc No: N00-290076
Curvilinear peristaltic pump for medical intravenous infusion of medicaments into patients
Patent Assignee: CURLIN TECHNOLOGY LLC (CURL-N); HYMAN O E (HYMA-I); JONES R L (JONE-I); MOUBAYED A M (MOUB-I); WHITE D N (WHIT-I)
Inventor: HYMAN O E; JONES R L; MOUBAYED A M; WHITE D N; MOUBAYED A
Number of Countries: 086 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200028217	A1	20000518	WO 99US26336	A	19991108	200033	B
AU 200013451	A	20000529	AU 200013451	A	19991108	200041	
US 6164921	A	20001226	US 98189052	A	19981109	200103	

Priority Applications (No Type Date): US 98189052 A 19981109
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200028217	A1	E	245	F04B-049/06	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

AU 200013451	A	F04B-049/06	Based on patent WO 200028217
US 6164921	A	F04B-049/06	

Abstract (Basic): WO 200028217 A1
Abstract (Basic):
NOVELTY - A curvilinear peristaltic pump(10) delivers a liquid through a disposable resilient tubing with a shut off valve(14). The pump has a platen member(26) in a housing(16), carrying a rotatable cam(34) with associated drive means. Pump fingers(52) movably attached to the housing(16) contact the cam and the tubing, and sequential finger movement caused by cam rotation provides the pumping action.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following:

(1) a tubing assembly for use ion the novel device, comprising resilient tubing, a tubing locator pin attached to the tubing, and a shutoff valve attached to the tubing, and able to selectively obstruct the liquid flow in the tube;

(2) a shut off valve for use in the novel device, comprising a valve body with an opening in it allowing the passage of the tubing through it, and a pinch arm movably attached to the valve body and engageable to the tubing passing through it, the pinch arm being movable between positions where the tubing is not compressed by the valve, and where the tube is collapsed by the valve; and

(3) an administration set for use in the novel device, comprising a length of resilient tubing, and at least one locating member positioned on the tubing, the locator being able to trip the sensor when a portion of the tubing is extended over the pump fingers, the tripping of the sensor is required to activate the drive unit.

USE - The novel device is used as a medical infusion pump.

ADVANTAGE - The pump has improved features to control delivery of medicaments to a patient.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic of the curvilinear peristaltic pump.

Curvilinear peristaltic pump (10)
Tubing assembly (12)
Tubing shut-off valve (14)
Pump housing (16)
Interface buttons (20)
Platen member (26)
Driven cam (34)
Drive unit (36)
Pump fingers (52).
pp; 245 DwgNo 7A/16

11/AB/19 (Item 2 from file: 351)
DIALOG(R)File 351:Derwent WPI

012447604
WPI Acc No: 1999-253712/199921
Related WPI Acc No: 1997-050769
XRPX Acc No: N99-188895
Blood salvage assembly for removing blood from a patient and cleaning it for re-infusion
Patent Assignee: COBE LAB INC (COBE-N)
Inventor: DARNELL L; IGOE T; SKINKLE D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5891080	A	19990406	US 94332814	A	19941031	199921	B
			US 95450537	A	19950525		

Priority Applications (No Type Date): US 94332814 A 19941031; US 95450537 A 19950525
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5891080	A		12	A61M-037/00	Div ex application US 94332814 Div ex patent US 5584320

Abstract (Basic): US 5891080 A
Abstract (Basic):

NOVELTY - An apparatus for managing and controlling fluid flow through a number of fluid conduits includes a chassis, a Y-shaped frame

(106), a centrifuge bowl (98) and a number of conduit occluders, each associated with a conduit. A single actuator, e.g. an electric motor, mounted in the chassis, adjusts the occluders between open and closed positions. A roller cage mechanically interconnects the actuator to the occluders so that the single actuator is capable of maintaining one occluder closed while the others are maintained open.

USE - Blood salvage assembly for removing blood from a patient before or during surgery and cleaning it for re-infusion into patient.

ADVANTAGE - Enables operator to quickly initiate blood collection process while minimizing risk of error.

DESCRIPTION OF DRAWING(S) - The drawings show a top view of a fluid cassette and a schematic illustrating the interconnection of the components of the system.

valve cap (34)
peristaltic pump (90)
centrifuge bowl (98)
cassette (104)
Y-shape frame (106)
fluid conduits (130,132,134)
main line (136)
pp; 12 DwgNo 6,7/7

11/AB/20 (Item 3 from file: 351)
DIALOG(R)File 351:Derwent WPI

012190988
WPI Acc No: 1998-607901/199851
XRAM Acc No: C98-182080
XRPX Acc No: N98-472806
Apparatus of peristaltic type for infusion of medical preparations - comprises shaft with cams mutually at right angles acting on rods with semispherical dies pressing elastic tube in cyclic mode supported on plate with elastic gasket
Patent Assignee: PREC EQUIP RES INST (PREC-R)
Inventor: BEDNYI V M; RODIONOV YU T; ZEFIROV A S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RU 2111018	C1	19980520	RU 95107376	A	19950506	199851	B

Priority Applications (No Type Date): RU 95107376 A 19950506
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RU 2111018	C1		9	A61M-005/152	

Abstract (Basic): RU 2111018 C

The apparatus comprises container (1) filled with liquid preparation, polymeric tube (2) with needle at end, peristaltic mechanism (3) for cyclic pressing of tube which generates forced flow of liquid, control block (4) with transmission line (5) to motor (10), cams (6) on shaft (7) acting on rods (9) with springs (8). The ends of rods (8) are with profiled dies (11) in contact with tube (2) placed on plate (12) with elastic gasket (13). The specified mechanism contains five cams (6) unfolded at 90 deg angles with rods (9), two damping. The cross-section of dies (11) is semicircular of radius equal to 1.5-2 times the outer radius of tube, and the mutual distance is 2.5-3 times the outer diameter of tube. Each cam (6) is divided to four equal sectors, two opposite sectors of three cams have different radii for pressing the tube to 0.55-0.7 of inner diameter, the remaining two cams

have opposite sectors in pairs with different radii for half working displacement of rods, and two other sectors of all five cams have profile in the form of Archimedean spiral.

USE - In medicine, for parenteral infusions of liquid medical preparations in hospital conditions, and also in transport of patients.

ADVANTAGE - Improved exploitational characteristics of apparatus because of significantly lower pulsations of liquid flow at output of pump and possibility of use of elastic PVC tubes instead of special silicon parts.

Dwg.1/5

11/AB/21 (Item 4 from file: 351)
DIALOG(R)File 351:Derwent WPI

011855028
WPI Acc No: 1998-271938/199824
XRAM Acc No: C98-084875
XRPX Acc No: N98-213499
Apparatus for reducing platelet clumping in concentrated platelet solutions - comprises pump with tubing loop of surface modified polymer, especially base polymer with poly-caprolactone-polysiloxane additive
Patent Assignee: COBE LAB INC (COBE-N)
Inventor: GIBBS B W
Number of Countries: 019 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9818509	A1	19980507	WO 97US19191	A	19971023	199824	B

Priority Applications (No Type Date): US 96738730 A 19961028
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9818509	A1	E	28	A61M-001/10	

Designated States (National): CA JP
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Abstract (Basic): WO 9818509 A

Apparatus for processing platelets and passing a concentrated platelet solution (CPS) comprises a pump for pumping the CPS. The pump comprises a tubing loop (TL) comprising a surface modified polymer (SMP) for carrying the CPS. Also claimed are (B) a process for reducing blood component reactions in blood processing which comprises: (a) receiving blood; (b) transporting the blood to a blood processor; (c) fractionating the blood in the processor into at least 2 components, at least 1 of which comprises platelets; (d) providing a pump; (e) providing a TL which comprises a SMP, in the pump and (f) pumping the component comprising platelets through the TL, so that the SMP reduces clumping of the platelets passed through the TL; (B) reducing reversible platelet clumping in a CPS which comprises: (a) providing a pump for pumping the CPS; (b) providing a TL in the pump; (c) forming the TL in the pump out of a base polymer and a surface modifying additive and (d) pumping the CPS through the TL of the pump for collection, so that the additive reduces clumping of the platelets in the CPS and (C) reducing platelet trauma in a CPS which comprises: (a) providing a pump which has a TL of tubing; (b) pumping the CPS with the pump; (c) passing the CPS through the tubing of the TL and (d) occluding the tubing of the TL with a minimum force less than the standard force typically applied to the tubing to pump the CPS and reduce platelet trauma.

The SMP preferably comprises a base polymer and a linear block copolymer blended with the base polymer. The block copolymer comprises polycaprolactone-polysiloxane (PP). The base polymer is polyurethane , polyvinyl chloride , polyurea, polyamide, epoxy resin, phenoxy resin, polyester, polyester-polyether copolymer, acrylonitrile-butadiene-styrene resin, styrene-acrylonitrile resin, polycarbonate, polyolefin, styrene-maleic anhydride copolymer or polymethyl methacrylate.

USE - The apparatus is used for preventing reversible clumping in CPS during plateletpheresis procedures and when the solution is transported through the TL of a peristaltic pump.

Dwg.0/2

11/AB/22 (Item 5 from file: 351)
DIALOG(R)File 351:Derwent WPI

011634719
WPI Acc No: 1998-051847/199805
XRAM Acc No: C98-017680
XRPX Acc No: N98-041189
Medical tubing prepared by extrusion then longitudinal orientation - used to replace PVC tubing used in fluid administration sets and with medical infusion pumps
Patent Assignee: BAXTER INT INC (BAXT)
Inventor: DING Y S; LAL B K; LING M T K; MILLER M F; MIZENER S R; QIN C; ROSTRON D L; RYAN P T; WOO L; LING M T; GIN C
Number of Countries: 063 Number of Patents: 013
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9742020	A1	19971113	WO 97US7032	A	19970425	199805	B
AU 9727447	A	19971126	AU 9727447	A	19970425	199813	
NO 9800007	A	19980220	WO 97US7032	A	19970425	199818	
			NO 987	A	19980102		
EP 836550	A1	19980422	EP 97921405	A	19970425	199820	
			WO 97US7032	A	19970425		
US 5741452	A	19980421	US 96642657	A	19960503	199823	
CN 1197423	A	19981028	CN 97190834	A	19970425	199911	
TW 343928	A	19981101	TW 97105853	A	19970502	199918	
NZ 329409	A	19990729	NZ 329409	A	19970425	199935	
			WO 97US7032	A	19970425		
BR 9702210	A	19990720	BR 972210	A	19970425	199940	
			WO 97US7032	A	19970425		
MX 9800142	A1	19980301	MX 98142	A	19980107	200002	
JP 11512674	W	19991102	JP 97539963	A	19970425	200003	
			WO 97US7032	A	19970425		
AU 714189	B	19991223	AU 9727447	A	19970425	200011	
KR 99028626	A	19990415	WO 97US7032	A	19970425	200027	
			KR 97709948	A	19971230		

Priority Applications (No Type Date): US 96642657 A 19960503
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9742020	A1	E	29	B29C-055/22	

Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

JP 11512674	W		27	B29C-055/22	Based on patent WO 9742020

AU 714189	B		B29C-055/22	Previous Publ. patent AU 9727447 Based on patent WO 9742020
KR 99028626	A		B29C-055/22	Based on patent WO 9742020
AU 9727447	A		B29C-055/22	Based on patent WO 9742020
EP 836550	A1 E		B29C-055/22	Based on patent WO 9742020
Designated States (Regional): BE DE DK FI FR GB IE IT SE				
US 5741452	A	9	B29C-047/00	
NZ 329409	A		B29C-055/22	Based on patent WO 9742020
BR 9702210	A		B29C-055/22	Based on patent WO 9742020
MX 9800142	A1		B29C-055/22	
NO 9800007	A		B29C-000/00	
CN 1197423	A		B29C-055/22	
TW 343928	A		A61M-039/28	

Abstract (Basic): WO 9742020 A

A method for making flexible medical tubing comprises orienting a tubing made from a polymeric material along its longitudinal axis such that the diameter is reduced after orientation.

The initial diameter of the tubing is 10-300% greater than the oriented diameter. The tubing is formed by extruding the polymeric material selected from polyolefins, olefin copolymers, ethylene-propylene rubbers, ethylene/vinyl acetate copolymers, ethylene/methyl acrylate copolymers, (hydrogenated) styrene/hydrocarbon block copolymers, thermoplastic elastomers, polyurethanes, polyamide and polyester copolymers, copolyesters, polybutadiene, polyisoprene, polyisobutylene, styrene/butadiene rubbers and crosslinked elastomers.

USE - The tubing is used to replace the PVC tubing used in fluid administration sets and with medical infusion pumps.

ADVANTAGE - Pre-orienting the tubing increases its resistance to necking in use. Heat setting prevents loss of orientation and dimensional changes when the tubing is stored, transported and used. The additive improves the compatibility of the tubing with peristaltic pumps and makes the surface more resistant to damage, e.g. by clamps.

Dwg.3b/3

11/AB/23 (Item 6 from file: 351)
DIALOG(R)File 351:Derwent WPI

011582303
WPI Acc No: 1997-558784/199751
XRAM Acc No: C97-178414
XRPX Acc No: N97-465738
Production of flexible medical tubing which maintains dimensional stability - comprises orienting polymer tubing along material axis and heating
Patent Assignee: BAXTER INT INC (BAXT)
Inventor: DING Y S; LAL B K; LAURIN D; LING M T K; MIZENER S R; QIN C; ROSTRON D L; RYAN P T; WOO L; LING M T; MIZENER S; ROSTRON D
Number of Countries: 062 Number of Patents: 012
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9742021	A1	19971113	WO 97US7033	A	19970425	199751	B
AU 9727448	A	19971126	AU 9727448	A	19970425	199813	
EP 836551	A1	19980422	EP 97921406	A	19970425	199820	
			WO 97US7033	A	19970425		
NO 9800008	A	19980224	WO 97US7033	A	19970425	199820	
			NO 988	A	19980102		
CN 1197424	A	19981028	CN 97190835	A	19970425	199911	
BR 9702256	A	19990217	BR 972256	A	19970425	199914	

			WO 97US7033	A	19970425	
NZ 329410	A	19990729	NZ 329410	A	19970425	199935
			WO 97US7033	A	19970425	
JP 11510446	W	19990914	JP 97539964	A	19970425	199948
			WO 97US7033	A	19970425	
MX 9800143	A1	19980301	MX 98143	A	19980107	200002
KR 99028627	A	19990415	WO 97US7033	A	19970425	200027
			KR 97709949	A	19971230	
US 6129876	A	20001010	US 96642656	A	19960503	200052
AU 728142	B	20010104	AU 9727448	A	19970425	200107

Priority Applications (No Type Date): US 96642656 A 19960503
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9742021	A1	E	32	B29C-055/22	
Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 9727448	A			B29C-055/22	Based on patent WO 9742021
EP 836551	A1	E		B29C-055/22	Based on patent WO 9742021
Designated States (Regional): BE DE DK FI FR GB IE IT SE					
NO 9800008	A			B29C-000/00	
CN 1197424	A			B29C-055/22	
BR 9702256	A			B29C-055/22	Based on patent WO 9742021
NZ 329410	A			B29C-055/22	Based on patent WO 9742021
JP 11510446	W		28	B29C-055/22	Based on patent WO 9742021
MX 9800143	A1			B29C-055/22	
KR 99028627	A			B29C-055/22	Based on patent WO 9742021
US 6129876	A			B29C-047/00	
AU 728142	B			B29C-055/22	Previous Publ. patent AU 9727448 Based on patent WO 9742021

Abstract (Basic): WO 9742021 A

Production of flexible medical tubing comprises (a) longitudinally orienting tubing made of a polymer material such that oriented tube has a reduced diameter; and (b) applying heat to the oriented tubing to heat set it to maintain dimensional stability. Also claimed is medical tubing treated as above and suitable for connecting to a rigid housing.

USE - The tubing is a substitute for PVC medical tubing used with fluid administration sets and with medical infusion pumps.

ADVANTAGE - Pre-orienting the tubing increases its resistance to necking in use. Heat setting prevents loss of orientation and dimensional changes when the tubing is stored, transported and used. The additive improves the compatibility of the tubing with peristaltic pumps and makes the surface more resistant to damage, e.g. by clamps.

Dwg.3/3

11/AB/24 (Item 7 from file: 351)
DIALOG(R)File 351:Derwent WPI

011582221
WPI Acc No: 1997-558702/199751
XRAM Acc No: C97-178369
XRPX Acc No: N97-465672
Oriented medical tubing for connection to rigid housings - has polymeric sidewall containing additive, used as substitute for polyvinyl

chloride tubing
Patent Assignee: BAXTER INT INC (BAXT)
Inventor: DING Y S; LAL B K; LING M T K; MILLER M F; MIZENER S R; QIN C; ROSTRON D L; RYAN P T; WOO L; MLZENER S R; ROSTRON D A; LING M T
Number of Countries: 062 Number of Patents: 012
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9741906	A1	19971113	WO 97US7040	A	19970425	199751 B
AU 9727450	A	19971126	AU 9727450	A	19970425	199813
EP 836491	A1	19980422	EP 97921408	A	19970425	199820
			WO 97US7040	A	19970425	
NO 9800006	A	19980303	WO 97US7040	A	19970425	199820
			NO 986	A	19980102	
CN 1197399	A	19981028	CN 97190836	A	19970425	199911
US 5932307	A	19990803	US 96642275	A	19960503	199937
BR 9702214	A	19990720	BR 972214	A	19970425	199940
			WO 97US7040	A	19970425	
JP 11510587	W	19990914	JP 97539966	A	19970425	199948
			WO 97US7040	A	19970425	
NZ 329412	A	19991028	NZ 329412	A	19970425	199953
			WO 97US7040	A	19970425	
MX 9800144	A1	19980301	MX 98144	A	19980107	200002
KR 99028628	A	19990415	WO 97US7040	A	19970425	200027
			KR 97709950	A	19971230	
AU 726109	B	20001102	AU 9727450	A	19970425	200062

Priority Applications (No Type Date): US 96642275 A 19960503
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9741906	A1	E	45	A61M-005/00	
Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 9727450	A			A61M-005/00	Based on patent WO 9741906
EP 836491	A1	E		A61M-005/00	Based on patent WO 9741906
Designated States (Regional): BE DE DK FI FR GB IE IT SE					
NO 9800006	A			A61M-000/00	
CN 1197399	A			A61M-005/00	
US 5932307	A			B29D-023/00	
BR 9702214	A			A61M-005/00	Based on patent WO 9741906
JP 11510587	W		40	F16L-011/04	Based on patent WO 9741906
NZ 329412	A			A61M-039/08	Based on patent WO 9741906
MX 9800144	A1			A61M-005/00	
KR 99028628	A			A61M-005/00	Based on patent WO 9741906
AU 726109	B			A61M-005/00	Previous Publ. patent AU 9727450 Based on patent WO 9741906

Abstract (Basic): WO 9741906 A

Polymeric tubing for connecting to rigid housings has a sidewall comprising 99.999-90.0 wt.% of a polymeric material and 0.001-10 wt.% of an additive. The tubing is oriented along its longitudinal axis so that its diameter is reduced after orientation.

The additive preferably contains > 5C atoms and has electronegative groups selected from amines, amides, hydroxyl, acids, acetate, ammonium salts, organometallic compounds e.g. metal alcoholates, metal carboxylates and metal complexes of 1,3-dicarbonyl compounds, phenyl phosphines, pyridines, pyrrolidones, imidazolines and oxazolines. The polymer is selected from e.g. polyolefins, olefin copolymers, ethylene-propylene rubbers, ethylene/vinyl acetate (EVA) copolymers,

ethylene/methyl acrylate copolymers or (hydrogenated) styrene/hydrocarbon block copolymers.

USE - The tubing is used as a substitute for polyvinyl chloride medical tubing used with fluid administration sets and with medical infusion pumps.

ADVANTAGE - Pre-orienting the tubing increases its resistance to necking in use. Heat setting prevents loss of orientation and dimensional changes when the tubing is stored, transported and used. The additive improves the compatibility of the tubing with peristaltic pumps and makes the surface more resistant to damage e.g. by clamps.

Dwg.3/10

11/AB/25 (Item 8 from file: 351)
DIALOG(R)File 351:Derwent WPI

011582220
WPI Acc No: 1997-558701/199751
XRAM Acc No: C97-178368
XRPX Acc No: N97-465671
Longitudinally oriented medical tubing for fluid administration sets - has polymeric sidewall containing additive, used as substitute for polyvinyl chloride tubing
Patent Assignee: BAXTER INT INC (BAXT)
Inventor: DING Y S; LAL B K; LING M T K; MIZENER S R; QIN C; ROSTRON D L; RYAN P T; WOO L; LING M T
Number of Countries: 062 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9741905	A1	19971113	WO 97US7034	A	19970425	199751	B
AU 9727449	A	19971126	AU 9727449	A	19970425	199813	
EP 836490	A1	19980422	EP 97921407	A	19970425	199820	
			WO 97US7034	A	19970425		
NZ 329411	A	19990329	NZ 329411	A	19970425	199918	
			WO 97US7034	A	19970425		
JP 11510422	W	19990914	JP 97539965	A	19970425	199948	
			WO 97US7034	A	19970425		
AU 726111	B	20001102	AU 9727449	A	19970425	200062	

Priority Applications (No Type Date): US 96642278 A 19960503
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9741905	A1	E	30	A61M-005/00	
Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 9727449	A			A61M-005/00	Based on patent WO 9741905
EP 836490	A1	E		A61M-005/00	Based on patent WO 9741905
Designated States (Regional): BE CH DE DK ES FI FR GB IT LI SE					
NZ 329411	A			A61M-005/00	Based on patent WO 9741905
JP 11510422	W		29	A61M-005/14	Based on patent WO 9741905
AU 726111	B			A61M-005/00	Previous Publ. patent AU 9727449
					Based on patent WO 9741905

Abstract (Basic): WO 9741905 A

Method for using medical tubing for infusing therapeutic fluids to a patient comprises: (a) providing a medical tubing, which has a sidewall of a polymeric blend comprising 99.999-90.0 wt.% of polymeric

material and 0.001-10 wt.% of an additive, and which is oriented along its longitudinal axis so that the diameter is reduced after orienting and (b) providing fluid under pressure through the tubing to the patient.

The fluid under pressure may be provided by providing an infusion pump, which has a member that impinges on the sidewall of the tubing, and regulating the flow rate of the fluid with the pump. The infusion pump moves the tubing out of a round cross-section without occluding it. Alternatively, pressure may be provided by suspending a container containing the therapeutic fluid above the patient to create fluid pressure in the tubing, and controlling the flow rate of fluid through the tubing using a clamp. The tubing is heat set to maintain its oriented diameter during use. The polymer is selected from e.g. polyolefins, olefin copolymers, ethylene-propylene rubbers, ethylene/vinyl acetate (EVA) copolymers, ethylene/methyl acrylate copolymers or (hydrogenated) styrene/hydrocarbon block copolymers. thermoplastic elastomers,

USE - The tubing is used as a substitute for polyvinyl chloride medical tubing used with fluid administration sets and with medical infusion pumps.

ADVANTAGE - Pre-orienting the tubing increases its resistance to necking in use. Heat setting prevents loss of orientation and dimensional changes when the tubing is stored, transported and used. The additive improves the compatibility of the tubing with peristaltic pumps and makes the surface more resistant to damage, e.g. by clamps.

Dwg.3/6

11/AB/26 (Item 9 from file: 351)
DIALOG(R)File 351:Derwent WPI

011120395
WPI Acc No: 1997-098320/199709
XRPX Acc No: N97-081470
Treatment procedure for acute odontogenic maxillary sinusitis - puncturing maxilliary sinuses through front wall above projection of 65/56 tooth tips, irrigating and applying laser treatment
Patent Assignee: SAMARA STOMATOLOGICAL POLYCLINIC (SAMA-R)
Inventor: BOGATOV A I
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RU 2061421	C1	19960610	SU 5021083	A	19920104	199709	B

Priority Applications (No Type Date): SU 5021083 A 19920104
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RU 2061421	C1		4	A61B-017/24	

Abstract (Basic): RU 2061421 C

The procedure consists of puncturing the maxillary sinuses through their front walls at points above the projections of the 65/56 teeth and 20 mm above the edge of the gum after giving a local anaesthetic. The sinuses are then irrigated with an antiseptic solution, using two PVC catheters, a peristaltic pump and a saliva suction pump. The irrigation procedure is carried out 2 - 3 times a day until all exudate is cleared.

The antiseptic irrigation is followed by a course of laser treatment, using a laser beam with a power of 50mW/sq cm for the first four days, and at 180 - 200 mW/sq cm during subsequent days. Each

session lasts 10 min, and the course is of 7 - 10 sessions.
ADVANTAGE - More effective treatment, with reduction in complications and maintenance of masticatory capacity.
Bul. 16/10.6.96
Dwg.0/0

11/AB/27 (Item 10 from file: 351)
DIALOG(R)File 351:Derwent WPI

009460992
WPI Acc No: 1993-154519/199319
XRAM Acc No: C93-068876
XRPX Acc No: N93-118221
Adjustable connection plate for peristaltic pump providing distribution of nutrients - has asymmetrically arranged orifices for holding 2 corresp. pins extending from pump support to allow single configuration preventing error
Patent Assignee: PETERS SA (PETE-N)
Inventor: SCHWARZ E G
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2681104	A1	19930312	FR 9111015	A	19910905	199319	B

Priority Applications (No Type Date): FR 9111015 A 19910905
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2681104	A1		15	F04B-049/10	

Abstract (Basic): FR 2681104 A
The plate supports conical threaded connections for the silicon tubing loop which passes through the peristaltic pump and cylindrical connections for the PVC tubing providing the entry and exit of nutrient soln. The plate also has two orifices, located asymmetrically, into which locate two corresp. pins extending from a bar attached to the pump support. This ensures that connections can only be made in the correct manner.
USE - Used for hospital feeding tubes.
Dwg.2/4

11/AB/28 (Item 11 from file: 351)
DIALOG(R)File 351:Derwent WPI

009256334
WPI Acc No: 1992-383747/199247
Related WPI Acc No: 1988-229118; 1993-060145
XRPX Acc No: N92-292606
Replaceable tube set for arthroscopic surgical irrigation system - has three bonded PVC tubes separated at their ends to connect saline bottle and peristaltic pump with insertion and drainage cannulae
Patent Assignee: MINNESOTA MINING & MFG CO (MINN)
Inventor: DESATNICK A H; MARCUS H D; MERTE K E
Number of Countries: 003 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 513858	A2	19921119	EP 92112766	A	19871203	199247	B
EP 513858	A3	19930224	EP 92112766	A	19871203	199348	

EP 513858	B1	19960214	EP 87402750	A	19871203	199611	
			EP 92112766	A	19871203		
DE 3751711	G	19960328	DE 3751711	A	19871203	199618	
			EP 92112766	A	19871203		

Priority Applications (No Type Date): US 86942271 A 19861216
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 513858	A2	E	8	A61M-003/02	Related to patent EP 278188
Designated States (Regional): DE FR GB					
EP 513858	B1	E	8	A61M-003/02	Derived from application EP 87402750
Designated States (Regional): DE FR GB					
DE 3751711	G			A61M-003/02	Based on patent EP 513858

Abstract (Basic): EP 513858 A

The tubing set has a flexible triple line comprising three small bore PVC tubes (20, 22, 24) bonded together, but separated at each end in order to make the various connections. The lines include an inflow line (20), a pressure sensing line (22), and an outflow line (24).

The header portion (32) of the inflow line engages in the rollers of a peristaltic pump (14), while the delivery end (14) has a fitting connecting with the patient cannula. The outflow line (24) has a drainage cannular (50) at the patient end, and discharges via an anti-airlock loop to a collector (18).

ADVANTAGE - Being a unit, the tubing set avoids errors when identifying, tracing, and connecting several separate different tubes. It is also compact, and easily and quickly replacable for the following patient.

it

Dwg.1/2

Abstract (Equivalent): EP 513858 B

A tubing set (10) for a surgical irrigation system comprising a pressure sensing line (22) for sensing pressure at an operation site (16) and transmission of the sensed pressure to a remote control, characterised in that said pressure sensing line includes a free end with a patient-communicating fitting (50) thereon, an elongate tubular pressure chamber (54) in said pressure sensing line immediately inward of said fitting, said chamber having a first end communicating with said fitting and a second end communicating with the remainder of the pressure sensing line, and a pressure transmitting resiliently flexible diaphragm (56) within said chamber, said diaphragm defining a fluid seal therein precluding passage of patient-originating liquid through the second end of said chamber, said remainder of the pressure sensing line defining a column of pressure transmitting air responsive to but segregated from the patient originating liquid.

Dwg.1/7

11/AB/29 (Item 12 from file: 351)
DIALOG(R)File 351:Derwent WPI

008986691
WPI Acc No: 1992-113960/199214
XRAM Acc No: C92-053072
XRPX Acc No: N92-085263
Plant analogue irrigation sensor - has water attracting base in soil and indicator of amt. of water entering
Patent Assignee: BRITISH TECHNOLOGY GROUP LTD (BRTE-N); NAT RES DEV CORP (NATR)

Inventor: HETTIARATCHI D R P; HEITTIARAT D
Number of Countries: 013 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9203916	A	19920319	WO 91GB1497	A	19910904	199214	B
GB 2249182	A	19920429	GB 9118990	A	19910904	199218	
EP 547122	A1	19930623	EP 91916286	A	19910904	199325	
			WO 91GB1497	A	19910904		
GB 2249182	B	19940209	GB 9118990	A	19910904	199404	

Priority Applications (No Type Date): GB 9019377 A 19900905; GB 9118990 A 19910904
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9203916	A		31		
Designated States (National): US					
Designated States (Regional): AT CH DE DK ES GB GR LU NL SE					
GB 2249182	A		31		
EP 547122	A1	E	31	A01G-025/16	Based on patent WO 9203916
Designated States (Regional): DE FR GB IT					
GB 2249182	B			G01N-033/24	

Abstract (Basic): WO 9203916 A

A sensor operates in a similar manner to a living plant to indicate water status and has a water-attracting base and an indicator of the amt. of water entering the base from the adjacent soil. The base pref. comprises sugar or similar soln. (14) housed in a container (13) formed of semipermeable membrane. The sensor pref. includes a leaf-analogue porous pot (21) above ground.

Pref. a pump (17) extracts over-diluted soln., passes it through a supply of the solute (19) to increase concn. and returns it to the base. The indicator is pref. a flowmeter operated by the flow of liq. from the sensor, partic. a peristaltic motor having a roller engaging a small-bore soft PVC lay-flat tube, the roller being rotated as the roller-induced depression in the tube is moved along the tube by a flow of liq.. Alternatively, the sensor is a pressure gauge or a mercury pellet movable reciprocally. along a fine-bore tube.

ADVANTAGE - Operates in a manner closely similar to plants without having to utilise living plants.

Dwg.5/9

Abstract (Equivalent): GB 2249182 B

An irrigation sensor device including a water-attracting base portion and indicator means operative to indicate the amount of water entering a base portion of the device from soil in the immediate vicinity of the base portion in which the base portion comprises a water-attractive material housed in a water-permeable container.

Dwg.1/2

11/AB/30 (Item 13 from file: 351)
DIALOG(R)File 351:Derwent WPI

008849521
WPI Acc No: 1991-353539/199148
XRAM Acc No: C91-152453
XRPX Acc No: N91-270783
Disposable infusion appts. - has mid-section of IV tubing with connectors at its end and specified max. shore hardness
Patent Assignee: BLOCK MEDICAL INC (BLOC-N); BLOCK MED INC (BLOC-N)
Inventor: CORDNER E T; MCWILLIAMS M; SANCOFF G E; CORDNER E D; WILLIAMS M

Number of Countries: 017 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9116933	A	19911114				199148 B
US 5165874	A	19921124	US 90518777	A	19900504	199250
			US 92816852	A	19920102	
EP 527868	A1	19930224	EP 91909243	A	19910429	199308
			WO 91US2930	A	19910429	
JP 5507007	W	19931014	JP 91508693	A	19910429	199346
			WO 91US2930	A	19910429	
EP 527868	A4	19930922	EP 91909243	A	19910000	199527
CA 2080370	C	19980714	CA 2080370	A	19910429	199839

Priority Applications (No Type Date): US 90518777 A 19900504; US 92816852 A 19920102
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9116933	A		22		
Designated States (National): CA JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
US 5165874	A		8	F04B-043/08	Cont of application US 90518777
EP 527868	A1	E	22	A61M-001/00	Based on patent WO 9116933
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
JP 5507007	W		8	A61M-005/142	Based on patent WO 9116933
CA 2080370	C			A61M-005/142	

Abstract (Basic): WO 9116933 A

Disposable infusion appts. comprises IV tubing consisting of proximal, distal and intermediate sections with couplings connecting the sections together. The intermediate section which is engageable by a peristaltic pumping member throughout a pumping stroke has a max. Shore A hardness of 75 and pref. a min. of 35.

Pref. the intermediate section is made of vinyl or silicone. Pref. the proximal and distal sections are of PVC . Pref. the pump has a number of individually reciprocable fingers and a motor driven cam for displacing them sequentially.

USE - For delivering intravenous drugs at a controlled rate to a patient. (22pp Dwg.No.1/9

Abstract (Equivalent): US 5165874 A

Disposable infusion device for denaturing intraveneous drugs to a patient has a peristaltic pump which has individual fingers (32a) which slide back and forth towards and away from intermediate segments of IV tubing having a max. durameter of 75 on the short A scale. Motor-driven cams individually reciprocate fingers in a tuned sequence. A door (40) is connected to opposite ends of the IV segment for mounting it.

ADVANTAGE - Controlled rate of delivery to ambulatory patient. Dwg.2/9

11/AB/31 (Item 14 from file: 351)
DIALOG(R)File 351:Derwent WPI

008597436
WPI Acc No: 1991-101468/199114
Related WPI Acc No: 1994-233933
XRAM Acc No: C91-043486
XRPX Acc No: N91-078455
Lubricious composite coatings with variable properties - having outer layer of hydrophilic polymer and inner layer of water-insol stabilising polymer

Patent Assignee: STERILIZATION TECH SERVICES INC (STER-N); STERILIZATION TECH SERVICE (STER-N)
Inventor: WHITBOURNE R J
Number of Countries: 017 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5001009	A	19910319	US 8792077	A	19870902	199114	B
WO 9213718	A1	19920820	WO 91US771	A	19910205	199236	N
EP 570370	A1	19931124	EP 91903994	A	19910205	199347	N
			WO 91US771	A	19910205		
JP 6505029	W	19940609	JP 91504148	A	19910205	199427	N
			WO 91US771	A	19910205		
EP 570370	A4	19940323	EP 91903994	A		199529	
EP 570370	B1	19980617	EP 91903994	A	19910205	199828	N
			WO 91US771	A	19910205		
DE 69129634	E	19980723	DE 629634	A	19910205	199835	N
			EP 91903994	A	19910205		
			WO 91US771	A	19910205		
ES 2118750	T3	19981001	EP 91903994	A	19910205	199848	N
JP 3115590	B2	20001211	JP 91504148	A	19910205	200101	N
			WO 91US771	A	19910205		

Priority Applications (No Type Date): US 8792077 A 19870902; WO 91US771 A 19910205; EP 91903994 A 19910205; JP 91504148 A 19910205; DE 629634 A 19910205
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9213718	A1	E	36	B32B-027/36	
Designated States (National): CA JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
EP 570370	A1	E	7	B32B-027/36	Based on patent WO 9213718
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
JP 6505029	W		9	C08J-005/18	Based on patent WO 9213718
EP 570370	B1	E		B32B-027/36	Based on patent WO 9213718
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69129634	E			B32B-027/36	Based on patent EP 570370
					Based on patent WO 9213718
ES 2118750	T3			B32B-027/36	Based on patent EP 570370
JP 3115590	B2		11	C09D-005/00	Previous Publ. patent JP 6505029
					Based on patent WO 9213718

Abstract (Basic): US 5001009 A

Novel lubricious composite coatings which are more slippery when wet than when dry, resistant to wet abrasion removal and insol. in aq. soln. comprise: (i) an exposed surface outer layer comprising a hydrophilic polymer which is polyvinyl pyrrolidone and/or a vinyl pyrrolidone- vinylacetate copolymer, etc.; and (ii) an inner layer comprising a water-insol. stabilising polymer which is a cellulose ester, an opt. esterified Me vinyl ether-maleic anhydride copolymer or nylon.

USE/ADVANTAGE - The coatings, whose degree of lubricity, removal resistance and insolubility can be varied by adjusting the (i):(ii) ratio, are used on metal, glass, polyurethanes, PVC , polyacrylates, polycarbonates, polystyrene, polyester resins, butadiene-styrene copolymers, nylons, oolypropylene, polybutylene, Teflon (RTM), silicon (sic) or polyvinyl acetal. Uses include friction-reducing coatings for biomedical devices such as catheters, condoms, contact lenses, peristaltic pump chambers, arteriovenous shunts, endotracheal tubes, etc.. The coatings are applicable from stable, non-toxic solns.. (7pp Dwg.No.0/0)

11/AB/32 (Item 15 from file: 351)
DIALOG(R)File 351:Derwent WPI

008577811
WPI Acc No: 1991-081843/199112
XRAM Acc No: C91-034791
Stabilisation of 1,2-polybutadiene (semi) finished articles - using relatively low irradiation doses to give prods. useful in medical or food applications
Patent Assignee: REHAU & CO AG (REHA); REHAU & CO AG (REHA)
Number of Countries: 014 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 417552	A	19910320	EP 90116605	A	19900830	199112	B
DE 3930753	A	19910328	DE 3930753	A	19890914	199114	
DE 3930753	C	19920924	DE 3930753	A	19890914	199239	
EP 417552	A3	19920129	EP 90116601	A	19900830	199322	
EP 417552	B1	19941026	EP 90116601	A	19900830	199441	
DE 59007553	G	19941201	DE 507553	A	19900830	199502	
			EP 90116601	A	19900830		

Priority Applications (No Type Date): DE 3930753 A 19890914
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 417552	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
DE 3930753	C		4	C08L-009/00	
EP 417552	B1	G	5	B29C-071/04	
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 59007553	G			B29C-071/04	Based on patent EP 417552

Abstract (Basic): EP 417552 A
The known process for stabilising semi-finished or finished articles made from unsatd. polymes (or matls. contg. such polymers) by irradiation to effect crosslinking and/or sterilisation, is applied to cases in which the unsatd. polymer is a 1,2-polybutadiene. The irradiation dose is a max. of 80kGy, pref. 20-60 kGy depending on the deg. of crystallisation of the polymer.
USE/ADVANTAGE - The articles can be used in medical applications or in the food industry, e.g. as sleeves for peristaltic pumps or in angiographic catheters. Unlike previously used polymers such as PVC or EVA copolymers the unsatd. 1,2-polybutadiene is free of potentially toxic additives or decompsn. prods. and can be treated with relatively low irradiation dosages to give improved heat-resistance and improved recovery properties and breaking strength. (5pp Dwg.No.0/0)rom
Abstract (Equivalent): DE 3930753 C
Semi-finished or finished articles of poly-1,2-butadiene or a polymer compsn. contg. poly-1,2-butadiene are stabilised and opt. crosslinked and/or sterilised by irradiation with energetic rays at a dosage not more than 80 kGy. The dosage is pref 20-60 kGy depending on the degree of crystallinity of the polymer.
ADVANTAGE - The temp. stability of the polymer is sufficiently improved to allow its use for a wide range of purposes in the medical field and the foodstuff industry.
Dwg.O/O
Abstract (Equivalent): EP 417552 B
Application of high-energy radiation to crosslink prefabricated semi-finished products or finished articles made from an unsaturated polymer or polymer alloy containing at least one unsaturated polymer

whereby the unsaturated polymer is a 1,2-polybutadiene and whereby the semi-finished products or finished articles, having a crystallinity of 15% to 29%, are exposed to a maximum radiation dose of 80 kGy for the manufacture of profiles and moulded objects for the medical and foodstuff sectors.
Dwg.0/0

11/AB/33 (Item 16 from file: 351)
DIALOG(R)File 351:Derwent WPI

008440978
WPI Acc No: 1990-327978/199044
XRAM Acc No: C90-142437
Reactor testing bio-catalyst by slowly circuiting liq. - is totally immersed in tempered water-bath
Patent Assignee: AKAD WISSENSCHAFTEN DDR (DEAK)
Inventor: BUCHTING H; KIRSTEIN D; MULLER H G
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DD 279263	A	19900530	DD 324775	A	19890102	199044	B

Priority Applications (No Type Date): DD 324775 A 19890102

Abstract (Basic): DD 279263 A
Reaction between a liq. and a small amt. (possibly only 10-50 mg) of a biocatalyser is performed in a test-circuit wherein all elements are held in a tempered water bath, with the exception of the liq. source (4) located sufficiently above the circuit to provide a small gravity-drive pressure.
The cylindrical reaction vessel (1) which like the remaining circuit elements and connectors is made of inert PVC , with silicone rubber seals is preceded by a diffusor and holds the test-solid, esp. immobilisate from enzymes or other micro-organisms. At the reaction vessel outlet is a temp. sensor for emerging liq., circulated by the pump (2), pref. of peristaltic tube type. Circulating liq. can be extracted for test via a metering conduit (3), with a take-off (7) liq. enters and leaves the reaction vessel via porous inert sieve plates.
ADVANTAGE - Provides a standard reactor for rapid evaluation of new materials. (5pp Dwg.No 0/2

11/AB/34 (Item 17 from file: 351)
DIALOG(R)File 351:Derwent WPI

007595186
WPI Acc No: 1988-229118/198833
XRPX Acc No: N88-174343
Replaceable unitary tubing set for arthroscopic irrigation system - has three PVC tubes connecting patient to pump system and mechanical electrical outflow pressure control valves
Patent Assignee: MINNESOTA MINING & MFG CO (MINN)
Inventor: DESATNICK A H; MARCUS H D; MERTE K E
Number of Countries: 005 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 278188	A	19880817	EP 87402750	A	19871203	198833	B
US 4820265	A	19890411	US 86942271	A	19861216	198917	

CA 1277885	C	19901218					199105
EP 278188	B1	19930414	EP 87402750		A	19871203	199315
DE 3785444	G	19930519	DE 3785444		A	19871203	199321
			EP 87402750		A	19871203	

Priority Applications (No Type Date): US 86942271 A 19861216
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 278188	A	E	10		
Designated States (Regional): DE FR GB					
US 4820265	A		9		
EP 278188	B1	E	12	A61M-003/02	
Designated States (Regional): DE FR GB					
DE 3785444	G			A61M-003/02	Based on patent EP 278188

Abstract (Basic): EP 278188 A

The tubing set channels saline soln. from hanging containers (12) an arthroscopic pump (14) to the joint (16) being treated at a controlled pressure and rate of flow. Three parabonded PVC tubes are assembled as a set sepd. at their ens into an inflow line (20), a pressure-sensing line (22) and an outflow line (24) to a discharge collector (18).

line (20) includes a header tube (32), a Y connector (34) and duplicate clampable supply tubes (36). The outflow line (24) has an elastomeric adaptor (64) and a pressure control and relief including a mechanical relief valve (86) and solenoid control valve (88).

ADVANTAGE - Sterile operating conditions are ensured and cross-contamination of patients is prevented by removal and replacement of entire set of tubing at point of use of pump system

Abstract (Equivalent): EP 278188 B

A replaceable tubing set for use in an arthroscopic irrigation system, including an inflow line (20), an outflow line (22) and a pressure sensing line (24), said lines having first laterally separated end lengths including portions (40,72,74,80,60) therealong adapted to engage other components of said system, said inflow and outflow lines having second laterally separated end lengths terminating in patient communicating outer ends (26, 64), characterized in that said pressure sensing line has a second end length laterally separated from the second end lengths of the inflow and outflow lines and that said lines are joined, for a substantial portion of the central length of each, in parallel non-communicating relationship, and that the first separated end length of said inflow line comprises a pair of inflow supply tubes (36) each terminating in an outer end including means (40) for communication with a source of liquid (12), a single header tube (32) between and in liquid passing communication with said pair of supply tubes and the central length of the inflow line, and means (38) on said supply tubes for selectively closing and opening these tubes relative to flow therethrough. (Dwg.1/7)

Abstract (Equivalent): US 4820265 A

The tubing set, the major portions of which are defined from a trilumen section of tubing, comprises three lines including an inflow line, an outflow line and a pressure sensing line. The inflow line includes a header portion engageable about the rollers of a peristaltic pump, a delivery tube mounting a male luer fitting for engagement with a patient cannula, and a pair of clampable supply tubes with bag spikes for communication with saline bags. The pressure sensing line includes a pressure transmitting elongate tubular diaphragm mounted within a fluid chamber directly adjacent the patient end of the line. The pressure transmitting diaphragm communicates with an elongate dry or air tube which, at the remote end, communicates with an appropriate pump-mounted pressure transducer or the like.

The outflow line includes a pressure control and relief assembly comprising a pair of parallel tubes respectively for association with a solenoid valve for the selective control of liquid flowing therethrough and for association with a mechanical relief valve for allowing flow therethrough and releasing pressure upon the occurrence of excess pressure. The outflow line also includes a terminal discharge tube incorporating a fluid trapping loop therein to preclude suction-defeating drainage of fluid upon deactivation of the system.

USE - Arthroscopy pump system

11/AB/35 (Item 18 from file: 351)
DIALOG(R)File 351:Derwent WPI

007550706
WPI Acc No: 1988-184638/198827
XRAM Acc No: C88-082361
XRPX Acc No: N88-141053
Integral one-way sterilisable header for peristaltic pump - has flexible outer and collapsible inner tubes with pressure control and check valves
Patent Assignee: MINNESOTA MINING & MFG CO (MINN)
Inventor: PARROTT P L
Number of Countries: 009 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 273714	A	19880706	EP 87311387	A	19871223	198827	B
US 4767289	A	19880830	US 86948047	A	19861231	198837	
AU 8779890	A	19880707				198841	
CN 8707936	A	19880713				198929	

Priority Applications (No Type Date): US 86948047 A 19861231
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 273714	A	E	9		
Designated States (Regional): DE FR GB IT NL SE					
US 4767289	A		9		

Abstract (Basic): EP 273714 A

A header comprises a flexible outer tube to fit between pump roller and stator and a collapsible inner tube having a passageway normally closed inlet and outlet sections which are openable under positive fluid pressure and extend out of respective outer tube ends.

A pressure control valve has a housing around the inlet section and can supply pressure to open the inlet section.A one-way flow valve has a housing around the outlet section. The inner and outer tubes are pref. of PVC , with hardnesses of 55 and 55-85 Shore A respectively.

USE/ADVANTAGE - For use e.g. in cardiovascular surgery, renal dialysis or i.v. infusion, ensures correct effective operation.

0/9

Abstract (Equivalent): US 4767289 A

Peristaltic pump has a header comprising a flexible outer tube, a collapsible-expandable inner tube, a pressure control valve and a one-way-flow valve. The inner tube is within the passageway of the outer tube. Both valves are responsive to positive-pressured liq. at an inlet to the inner tube and allow the liq. to enter a passageway. (9pp)

11/AB/36 (Item 19 from file: 351)
DIALOG(R)File 351:Derwent WPI

007282940
WPI Acc No: 1987-279947/198740
XRAM Acc No: C87-118873
XRPX Acc No: N87-209644
Flexible thermoplastic tube with large diameter central section - with thinner wall than its ends
Patent Assignee: BAXTER TRAVENOL LAB INC (BAXT)
Inventor: BORSANYI A S
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2594496	A	19870821	FR 8612810	A	19860912	198740	B
JP 62191681	A	19870822				198739	
US 4854836	A	19890808	US 86830693	A	19860218	198939	

Priority Applications (No Type Date): US 86830693 A 19860218
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2594496	A		18		
US 4854836	A		8		

Abstract (Basic): FR 2594496 A

A flexible thermoplastic tube has a central section of larger diameter and with a thinner wall than its end sections. The tube is pref. of polyvinyl chloride . The central section is pref. cylindrical or hemispherical; there are pref. two such sections. A method of making the tube and a peristaltic pump including it are also claimed. The pump pref. has an assembly of cams engaging the central section of the tube. USE - For injection, perfusion, or extraction of body fluids.

Abstract (Equivalent): US 4854836 A

Fluids are transported through a conduit consisting of a 1-piece, flexible, resilient, non-elastomeric, thermoplastic tube having an inlet portion, intermediate portion and outlet portion integral with each other. The intermediate portion has a greater cross-section than the othe portions and at least part of its wall is thinner than the rest and that of the other portions, offering less resistance to deformation. A cup shaped cavity in the intermediate portion contains a thin walled integral membrane extending parallel with the length axis of the undeformed conduit.

The conduit is pref. made of PVC . The inlet and outlet portions are cylindrical. The conduit forms part of a peristaltic pump.

ADVANTAGE - Torque requirements for the pumping sections are minimised; recovery into the expanded state is improved

11/AB/37 (Item 20 from file: 351)
DIALOG(R)File 351:Derwent WPI

004781442
WPI Acc No: 1986-284783/198643
XRAM Acc No: C86-123287
Thermoplastic polymer compsns. for medical use, esp. as tubing - comprises opt. radiation-crosslinked blends of polyolefin polymer, elastomer, and polysiloxane-polyurethane inter-penetrating network polymer
Patent Assignee: RAYCHEM CORP (RAYC)
Inventor: DIECK R L; ZUKOSKY M
Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4616064	A	19861007	US 84633369	A	19840723	198643	B

Priority Applications (No Type Date): US 84633369 A 19840723; US 83488861 A 19830426

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4616064	A		6		

Abstract (Basic): US 4616064 A

Polymer compsn. comprises a ternary blend of 5-40 (pref. 7-28 and esp. 15-22) wt.% of a thermoplastic polyolefin (I) opt. contg. polar comonomers; 1-10 (pref. 2-6) wt.% of a polymer (II) comprising an interpenetrating network of a polysiloxane, and a polyurethane or polyamide contg. 2-27 (pref. 2-12) wt.% of the first component and at least 30 wt.% of the second; and 55-94 (pref. 62-92 and esp. 72-83) wt.% of an elastomer (III) having Shore D Hardness less than 60 and chosen from ionomers, styrene/butadiene copolymers, copolyester thermoplastic elastomers, and amorphous polyamides. Opt. the compsns. can be radiation crosslinked.

Blends are useful in the form of tubing and other articles for medical uses which contact the human skin, and are to be contacted by nitroglycerine (NG). They have excellent tactile properties and absorb less NG than prior art materials. Likewise many show substantially less spalling e.g. when used for peristaltic pumps tubing. The compsn. of the blend may be varied to achieve material having properties similar to plasticised PVC (e.g. tensile strength 2000-35000 psi and elongation 500-650%), or conventional 'soft' elastomers (e.g. tensile strength 1000-2000 psi and elongation above 650%). (6pp Dwg.No 0/0)

11/AB/38 (Item 21 from file: 351)
DIALOG(R)File 351:Derwent WPI

004546596
WPI Acc No: 1986-049940/198608
XRPX Acc No: N86-036557
Tubular line circulation peristaltic liq. pump - has electric pressure transducer utilising displacement of slider in contact with inlet tube wall
Patent Assignee: HOSPAL AG (HOSP-N)
Inventor: ALDROVANDI M; CIANCIAVICCHIA D; PEDRAZZI R; CIANCIAVIC D
Number of Countries: 011 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 172117	A	19860219	EP 85420129	A	19850712	198608	B
US 4702675	A	19871027	US 85761933	A	19850802	198745	
CA 1295512	C	19920211				199213	
EP 172117	B1	19930203	EP 85420129	A	19850712	199305	
DE 3587057	G	19930318	DE 3587057	A	19850712	199312	
			EP 85420129	A	19850712		

Priority Applications (No Type Date): IT 84U53709 U 19840807

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 172117	A	F	16		
Designated States (Regional): BE CH DE FR GB IT LI NL SE					
EP 172117	B1	F	11	A61M-001/10	
Designated States (Regional): BE CH DE FR GB IT LI NL SE					

DE 3587057 G A61M-001/10 Based on patent EP 172117

Abstract (Basic): EP 172117 B

The liq. is driven along a tube (6) having a section (7) of e.g. plasticised PVC elastically deformable by rollers (5) at the extremities of the rotor (4) of a peristaltic pump (3). The inlet portion (8) of the tube is equipped with an e electromechanical transducer (10). The movingg part (22) of the transducer is spring-loaded (23) and its position is measured (24) for an indication of pressure in the incoming liq.

The output of the transducer (10) is amplified (14) and compared with a reference value from a potentiometer (16). The signal from the comparator (15) is amplified (18) to operate an alarm lamp (13).

USE/ADVANTAGE - For extracorporeal blood circulation in e.g. dialysis appts. Quantity of liq. in measurement section (8) has less inertia, making for faster response to pressure changes which exceed admissible limits. (16pp Dwg.No.1/3

Abstract (Equivalent): EP 172117 B

Apparatus (1) for the extracorporeal circulation of the blood comprising a tubular conduit (2), a pump (3) as well as means for measuring the blood pressure inside the conduit (2), these means comprising: - a reference element (21) and a movable element (22) between which it is possible to interpose a portion of the conduit (2), the said portion being upstream from the pump (3), - measurement means (24) which note the relative position taken up by the said movable element (22) relative to the said reference element (21) and which emit an electric signal depending on the deformation of the said section (8) caused in operation by the pressure of the said blood, characterised in that the pump is a peristaltic pump (3) having a rotor (4) which acts by means of rollers (5) on the external surface of an elastically deformable tube (6) placed in series with the said tubular conduit (2), and in that the portion of the conduit (2) whereon the means for measuring the pressure are mounted is constituted by a section (8) of the tube (6) not subjected to the action of the rollers (5) upstream from the pump (3).

(Dwg.2/3

Abstract (Equivalent): US 4702675 A

An elasticity deformable tube in series with a tubular conduit is acted on by a peristaltic pump including a rotor with rollers which act on the two external surface. The negative pressure of the liquid sucked in the tube ahead of the pump is detected. An electric signal is emitted depending on the deformation of the tube.

A receptacle receives the deformed with a hole in the base. A piston slides axially within the hole. The piston facing towards the lid of the receptacle. A dentent for connecting the lid and receptacle, comprises a tooth on the lid and a corresponding cavity in an elastically deformable element joined to the receptacle

11/AB/39 (Item 22 from file: 351)

DIALOG(R)File 351:Derwent WPI

004391608

WPI Acc No: 1985-218486/198536

XRPX Acc No: N85-164161

Quantitative determination of calcium in biological fluids method - has calcium ion selective potentiometric sensing element of solid film of plastic material connected to reference electrode

Patent Assignee: INSTRUMENTATION LAB SPA (INLI); INSTRUMENTATION LAB INC (INLI); PREMOLI P (PREM-I)

Inventor: CALZI C; MANZONI A; PREMOLI P; CALZL C
Number of Countries: 010 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 153783	A	19850904	EP 85200206	A	19850219	198536	B
JP 60203849	A	19851015				198547	
DK 8500886	A	19850829				198548	
US 4618587	A	19861021	US 85703649	A	19850221	198645	
CA 1227243	A	19870922				198742	
IT 1174501	B	19870701				199027	
EP 153783	B	19911030				199144	
DE 3584531	G	19911205				199150	
DK 165655	B	19921228	DK 85886	A	19850227	199306	

Priority Applications (No Type Date): IT 8419826 A 19840228
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 153783	A	E	16		
Designated States (Regional): CH DE FR GB IT LI					
EP 153783	B				
Designated States (Regional): CH DE FR GB IT LI					
DK 165655	B			G01N-033/84	patent DK 8500886

Abstract (Basic): EP 153783 A

For reasons of temperature stability a measuring electrode (12) and a reference electrode (26) are contained within an anodized aluminium block (10), containing the measuring cell or chamber (14). The measuring cell consists of a block of transparent acrylic material (14) incorporating sample flow passages with their inlet and outlet connections (18,20). Connections (22,24) provide for reverse rinsing after each sampling. The sample is aspirated by a peristaltic pump (16) with a flow rate of 1ml/min, all measurements being made at ambient temperature.

The system uses a calcium ion selective potentiometric sensing element coupled to a reference electrode, typically of saturated calomel/potassium chloride. The calcium ion selective electrode consists of a solid film of plastic material, preferably polyvinyl - chloride containing an electroactive neutral carrier.

USE/ADVANTAGE - For examination of e.g. serum, plasma of urine. Elimination of acidification of sample guarantees stability and long life of silver electrodes.

1/2

Abstract (Equivalent): EP 153783 B

Method for determination of total calcium content in a serum, a plasma or a urine sample based on a potentiometric system that does not employ acidification of the sample using: - a calcium ion selective electrode; - a reference electrode; - a measuring cell of insulating material with temperaturea stabilization; - a volumetric diluter; - buffer of dilution of the sample or standard solution containing a calcium-protein complexing agent in form of metals, other than calcium exhibiting binding affinity towards such proteins and silicon oil emulsion; - buffered calibration calcium standard solution containing a complexing or chelating agent to calcium. (11pp)

Abstract (Equivalent): US 4618587 A

The potentiometric analytical system is calibrated with one solution containing 0.001 molar calcium, and a second solution containing 0.003 molar calcium. Both calibrating solutionsalso contain 0.1 molar tris (hydroxymethyl-aminomethane, or the derivatives, with pH value of 7.5 at 25 deg.C. and 300 to 400 mgs per deciliter of 2.2 Bis-(hydorxymethyl)-2,2',2" - nitrilotriethanol. The serum sample is diluted with a silicone oil-water emulsion that contains a protein

complexing against e.g. zine.

The diluted sample is then measured for calcium concentration by the system which comprises a potentiometric sensing element coupled to a reference electrode of PVC material. The emf in the electrochemical system is measured to give indication of the total calcium content in the serum.

ADVANTAGE - Serum sample does not undergo acidification, thus stability and long life of electrodes guaranteed (5pp)e

11/AB/40 (Item 23 from file: 351)
DIALOG(R)File 351:Derwent WPI

004302905
WPI Acc No: 1985-129783/198522
XRAM Acc No: C85-056398
XRPX Acc No: N85-097666
Artificial kidney with single needle - has perfusion pump slaved to one of two other pumps in blood circuit
Patent Assignee: HOSPAL IND SA (HOSP-N)
Inventor: CHEVALLET J; ROY O
Number of Countries: 010 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 143064	A	19850529	EP 84420189	A	19841108	198522	B
FR 2555058	A	19850524	FR 8318892	A	19831123	198526	
EP 143064	B	19880107				198802	
DE 3468327	G	19880211				198807	
US 5047147	A	19910910	US 88276091	A	19881123	199139	N

Priority Applications (No Type Date): FR 8318892 A 19831123; US 88276091 A 19881123
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 143064	A	F	15		
Designated States (Regional): BE DE GB IT LI NL SE					
EP 143064	B	F			
Designated States (Regional): BE CH DE GB IT LI NL SE					

Abstract (Basic): EP 143064 A

An artificial kidney has a circuit for blood with a single needle, a semipermeable membrane preferably connected to a blood flow oscillation damper, an arterial pump upstream of the membrane and a venous pump downstream of it and a perfusion pump connecting a perfusion device to the circuit controlled by one of the other two pumps.

Blood from one branch (11) of a Y-connector (10) fitted to a needle or catheter is drawn through pvc tubing by a peristaltic pump (12) operating at arterial pressure and fed to a haemodialyser (13). The haemodialyser is divided into a compartment for blood (15) and one for dialysis fluid (16) by a semipermeable membrane (14). A second pump (19), operating at venous pressure, draws blood through a tube (17) extending from the haemodialyser to a T-connector (25). One branch of the connector is fitted to a bubble trap (18) with a filter (22) connected to the Y-connector by a further tube (21). A safety clamp (26) in this tube is controlled by a bubble detector (20). A reservoir of perfusion fluid (24) communicates with the T-connector via a third pump (24) slaved to the venous pump by a controller (27).

ADVANTAGE - High flow rates can be achieved.

3/3

Abstract (Equivalent): EP 143064 B

An artificial kidney has a circuit for blood with a single needle, a semipermeable membrane preferably connected to a blood flow oscillation damper, an arterial pump upstream of the membrane and a venous pump downstream of it and a perfusion pump connecting a perfusion device to the circuit controlled by one of the other two pumps.

Blood from one branch (11) of a Y-connector (10) fitted to a needle or catheter is drawn through pvc tubing by a peristaltic pump (12) operating at arterial pressure and fed to a haemodialyser (13). The haemodialyser is divided into a compartment for blood (15) and one for dialysis fluid (16) by a semipermeable membrane (14). A second pump (19), operating at venous pressure, draws blood through a tube (17) extending from the haemodialyser to a T-connector (25). One branch of the connector is fitted to a bubble trap (18) with a filter (22) connected to the Y-connector by a further tube (21). A safety clamp (26) in this tube is controlled by a bubble detector (20). A reservoir of perfusion fluid (24) communicates with the T-connector via a third pump (24) slaved to the venous pump by a controller (27).

ADVANTAGE - High flow rates can be achieved. (15pp Dwg.No.3/3

Abstract (Equivalent): US 5047147 A

An artificial kidney comprising an extracorporeal blood circuit includes a blood treatment selectively permeable membrane appts., a single needle connectable to a patient's arterial-venous network, a pump with an inlet from the needle and an outlet to the membrane appts.

A second pump is fed by the membrane appts. and in turn feeds the needle. Two actuators cause operation of the pumps while at least one reservoir for soln. to be introduced into the blood circuit. A third actuator operates a perfusion pump connected between the reservoir and the circuit. The third actuator is connected with one of the two actuators to synchronise their operation.

ADVANTAGE - Homogeneity of perfusate is ensured. (7pp)

11/AB/41 (Item 24 from file: 351)
DIALOG(R)File 351:Derwent WPI

004180299
WPI Acc No: 1985-007179/198502
XRAM Acc No: C85-002959
XRPX Acc No: N85-004941
Peristaltic pump hose - with inner of two layers soft and elastic and outer mechanically strong
Patent Assignee: SIEMENS AG (SIEI)
Inventor: FRANETZKI M; PRESTELE K
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3322843	A	19850103	DE 3322843	A	19830624	198502	B

Priority Applications (No Type Date): DE 3322843 A 19830624
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3322843	A		10		

Abstract (Basic): DE 3322843 A

The hose (2) for a peristaltic pump (1a,1b) is made of two layers. The inner layer (5) is made of a material with good flexibility, elasticity and pliability. The outer layer (6) has a high

tensile and mechanical strength and stability of form, i.e. restoration capacity. Layer (5) is made of silicone or natural rubber, soft PVC or fluoro elastomer. Layer (6) is made of PVC , polyurethane, fluoro rubber or grades of polyethylene. The two layers can be bonded or shrunk to each other.

ADVANTAGE - This combines the many conflicting requirements for peristaltic pump application in one hose.

11/AB/42 (Item 25 from file: 351)
DIALOG(R)File 351:Derwent WPI

003929528
WPI Acc No: 1984-075072/198412
XRAM Acc No: C84-032383
XRPX Acc No: N84-056432
Blood component collection system with non centrifugal sepn. - of plasma then returning plasma poor residue to patient
Patent Assignee: BAXTER TRAVENOL LAB INC (BAXT)
Inventor: BLOOM P A; WILLIAMS R A
Number of Countries: 014 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8400892	A	19840315	WO 83US1134	A	19830721	198412	B
AU 8318830	A	19840329				198423	
ZA 8305771	A	19840307	ZA 835771	A	19830805	198429	
EP 118473	A	19840919	EP 83902661	A	19830721	198438	
JP 59501537	W	19840830	JP 83502732	A	19830721	198441	
ES 8405622	A	19841001				198449	
DK 8401399	A	19840315				198502	
IT 1163928	B	19870408				198928	

Priority Applications (No Type Date): US 82411056 A 19820824
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8400892	A	E	75		
Designated States (National): AU BR DK JP					
Designated States (Regional): BE CH DE FR GB SE					
EP 118473	A	E			
Designated States (Regional): BE CH DE FR GB LI SE					

Abstract (Basic): WO 8400892 A

Whole blood is supplied to a microporous membrane which separates the plasma. The plasma is collected and the plasma-poor component is returned to the patient, pref. with the addition of sterile saline soln. Pref. a peristaltic pump circulates the blood through the filter.

Simultaneously, a volume of whole blood is collected and is centrifuged to provide additional components of the blood. Pref. a valve is attached to the conduit which supplies the whole blood reservoir and in operation, this valve diverts whole blood away from the microporous membrane. Pref. the conduits are sterilised and sealed to the collection chambers which are made of PVC plasticised with di-2-ethyl hexylphthalate.

The system extracts blood components during an on-line procedure. The appts. has a high probability of maintaining sterility.

0/11

11/AB/43 (Item 26 from file: 351)

DIALOG(R)File 351:Derwent WPI

003850160
WPI Acc No: 1983-846411/198351
XRAM Acc No: C83-123546
XRPX Acc No: N83-225726
Flexible elastic tubing with star section profile - for damping hydrostatic pressure variations, esp. for smooth blood recirculation system pressures from peristaltic pumps
Patent Assignee: HOSPAL SA (HOSP-N)
Inventor: MANTOVANI F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2526662	A	19831118				198351	B

Priority Applications (No Type Date): IT 8253277 A 19820512
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2526662	A		7		

Abstract (Basic): FR 2526662 A
A device for damoing pressure variations in blood being recirculated externally by a mechanical pump comprises a flexible elastic tube with a section profile resembling a multiple point star with circumferentially collapsed peak. At low pressure, the tube offers a relatively small, unrestricted bore, but the radial ribs diverge and dilate the bore in response to rising pressure, increasing the tube capacity used thus damping the flow surge.
For use with e.g. dialysis units using peristaltic pumps which induce sinusoidal hydrostatic pressure variations. Simple in mfr. and use, the star section tubing is oref. made of PVC contg. 30-40% plasticiser (unspecified).

11/AB/44 (Item 27 from file: 351)
DIALOG(R)File 351:Derwent WPI

003165394
WPI Acc No: 1981-25936D/198115
Coupling for flexible tubes used in medical applications - partic. to withstand pull of peristaltic pump in extracorporeal circulation
Patent Assignee: LIGATURES PETERS (LIGA-N)
Inventor: SCHWARZ ; TOLLET M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2459663	A	19810220				198115	B

Priority Applications (No Type Date): FR 7916480 A 19790626

Abstract (Basic): FR 2459663 A
Coupling for flexible tubes employed in medical applications such as enteral/parenteral feeding, extracorporeal circulation of blood etc. The coupling is for twin path, parallel flow through two coupled pairs of flexible tubes.
The coupling comprises two flat, superimposed plates which are clamped or clipped together. Two leakproof joints between the two pairs of tubes are made in two passages through the superimposed plates by

the action of clamping the plates together.
In partic. the coupling is used to join suction and delivery tubes to the inlet and outlet ends of a flexible tube element of a peristaltic pump stops are provided to hold the coupling plate stationary when the inlet end of the peristaltic element is pulled by pumping action. The peristaltic tubular element is pref. made of silicone rubber and the suction and delivery tubes of PVC .
Used for joining flexible tubes employed in parenteral feeding or extracorporeal circulation of blood during, e.g. surgical operations on heart, lungs, kidneys, etc. Quick action, simple non-slip system has perfectly sealed joints, partic. suitable for coupling to the element of a peristaltic pump.

11/AB/45 (Item 28 from file: 351)
DIALOG(R)File 351:Derwent WPI

002518332
WPI Acc No: 1980-36360C/198020
Peristaltic liquid pump - has interposed sheet with stiff surface against rollers and sticky surface against plastics tubing
Patent Assignee: BAXTER TRAVENOL LAB INC (BAXT)
Inventor: BROWN R I; LEAF R L
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4201525	A	19800506				198020	B

Priority Applications (No Type Date): US 78921896 A 19780705

Abstract (Basic): US 4201525 A
Pump for connection to plastic tubing comprises a housing receiving a U-shaped length of tubing, a cover, and a pair of rollers connected to a rotatable head with the roller surfaces facing the cover and the tubing overlying the rollers.
The head is driven by an electric motor and a sheet is interposed between rollers and tubing, with a stiff surface contacting the rollers and sticky surface contacting the tubing. The cover urges the tubing against sheet and rollers when closed, and is pref. transparent. The sheet is pref. a laminate of Hytrel (RTM) polyester and PVC . The pump is partic. for blood and is easy to load and clean.

11/AB/46 (Item 29 from file: 351)
DIALOG(R)File 351:Derwent WPI

001817158
WPI Acc No: 1977-38143Y/197722
Medical liq. injections by peristaltic pump - with downstream flow restrictor to prevent pressure drop and release of dissolved gas
Patent Assignee: BAXTER TRAVENOL LAB INC (BAXT)
Number of Countries: 015 Number of Patents: 018
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
BE 850770	A	19770516				197722	B
DE 2703163	A	19770728				197731	
NL 7700761	A	19770728				197732	
SE 7700793	A	19770822				197736	
NO 7700247	A	19770822				197737	

DK 7700316	A	19770919	197741
FR 2338709	A	19770923	197744
BR 7700482	A	19771018	197745
ZA 7700411	A	19771025	197750
US 4155362	A	19790522	197923
GB 1556293	A	19791121	197947
GB 1556294	A	19791121	197947
IL 51320	A	19800916	198043
CA 1088835	A	19801104	198048
NO 8100223	A	19810323	198116
SU 1093236	A	19840515	198502
IT 1077875	B	19850504	198601
DE 2703163	C	19870312	198710

Priority Applications (No Type Date): US 77759178 A 19770113; US 76652937 A 19760126

Abstract (Basic): BE 850770 A

A process and appts. are for injecting a medical liq. into a patient's body by means of a peristaltic pump using an intermittently compressed pumping tube of deformable elastic material, e.g. the thermoplastic material such as PVC . Downstream of the pump's tube compressor, the pumping tube passes through a flow restrictor which applies external press. to squeeze the tube so that liq. does not pass unless the pump pressure reaches a minimum limit.

The restrictor is pref. a spring-loaded piston with a 'V' shaped leading edge applied to the pumping tube at right angles to the tube axis. The restrictor can be adapted to effect total closure of the tube passage or to leave an orifice of a calculated flow resistance.

Prod. can be used for measured injections of liq. into a patient's body, partic. transfusions of blood etc. Pressure is not allowed to drop between pump and patient and thus release dissolved gases which might then harm the patient

11/AB/47 (Item 30 from file: 351)
DIALOG(R)File 351:Derwent WPI

001226591
WPI Acc No: 1975-B0367W/197504
Medical apparatus for feeding and aspirating - has stomach-pressure sensing means connected to aspirator actuated by threshold
Patent Assignee: LEAR SIEGLER INC (LEAI)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 3860000	A	19750114				197504	B

Priority Applications (No Type Date): US 73378408 A 19730712

Abstract (Basic): US 3860000 A

Flexible tube (A) of polyvinyl chloride extends through the esophagus of a patient and has an outlet opening (42) positioned within stomach (B) of the patient. Tube (A) is connected by tee connected (44) to conduit (46) leading to a control panel (C). Another conduit (48) is also connected to tee connector (44) and has a ball check relief valve (50). The opposite end of conduit (48) is connected with tee connector (52). Flexible tubes (54, 56) extends through a feeding and irrigating peristaltic pump (D) and has an inlet (62) positioned in solution supply receptacle (E).

11/AB/48 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0236400 DBA Accession No.: 99-06501
Immobilization of Rhodobacter capsulatus on cellulose beads and water treatment using a photobioreactor- removal of organic carbon, phosphate ion and ammonium ion from growth medium, has application in waste-water treatment
AUTHOR: Sawayama S; Rao K K; Hall D O
CORPORATE AFFILIATE: Univ.London
CORPORATE SOURCE: Biomass Division, National Institute for Resources and Environment, AIST, MITI, 16-3 Onogawa, Tsukuba-city, Ibaraki 305-8569, Japan.
JOURNAL: J.Ferment.Bioeng. (86, 5, 517-20) 1998
ISSN: 0922-338X CODEN: JFBIEX
LANGUAGE: English
ABSTRACT: An axenic Rhodobacter capsulatus B10 culture immobilized on cellulose beads in a photoreactor was used to remove organic carbon, ammonium ions and phosphate ions from a diluted growth medium. The removal took 19-22 days with a residence time of 20.6 or 10.3 hr with corresponding flow rates of 140 or 70 ml/day, respectively, at 35 deg with continuous light of 60 uE/m.s. The photoreactor consisted of two transparent polyvinyl chloride tubes connected in series and containing cellulose beads, a peristaltic pump, a heater and two incandescent lamps. This bacterium is a promising catalyst for use in waste-water treatment systems with the added advantage that the beads could probably be reused. (14 ref)

11/AB/49 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0113647 DBA Accession No.: 91-01289 PATENT
Reactor testing biocatalyst activity by slowly circulating liquid- is totally immersed in tempered water bath; immobilized enzyme or immobilized cell activity determination
PATENT ASSIGNEE: Akad.Wiss.DDR 1990
PATENT NUMBER: DD 279263 PATENT DATE: 900530 WPI ACCESSION NO.: 90-327978 (9044)
PRIORITY APPLIC. NO.: DD 324775 APPLIC. DATE: 890102
NATIONAL APPLIC. NO.: DD 324775 APPLIC. DATE: 890102
LANGUAGE: German
ABSTRACT: Reaction between a liquid and a small quantity (possibly only 10-50 mg) of a biocatalyst is performed in a test-circuit where all elements are held in a tempered water bath, except the liquid source (4), which is located above the circuit to provide a small amount of gravity-driven pressure. The cylindrical reactor (1), which like the other circuit elements is composed of polyvinylchloride with silicon rubber seals, is preceded by a diffusor, and holds the test-solid, preferably immobilized enzymes or immobilized microorganisms. At the reactor outlet, a temp. sensor for the emerging liquid circulated by the pump (2), preferably of peristaltic tube type, is located. The circulating liquid can be extracted for testing in a metering conduit (3) with an outlet for removing samples (7). Liquid enters and leaves the reactor via porous inert sieve plates. The reactor rapidly evaluates the potential activity of new enzymes or microorganisms for catalyzing reactions. (5pp)

11/AB/50 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0113075 DBA Accession No.: 91-00717
Determination of D-glucose in undiluted whole blood using chemically modified electrodes and segmented sample injection in a flow system-glucose-dehydrogenase immobilization and use in carbon electrode enzyme electrode biosensor
AUTHOR: Buch-Rasmussen T
CORPORATE AFFILIATE: Radiometer-Med.
CORPORATE SOURCE: Novo-Nordisk A/S, Produktionsvej 14, DK-2600 Glostrup, Denmark.
JOURNAL: Anal.Chim.Acta (237, 2, 405-11) 1990
CODEN: ACACAM
LANGUAGE: English
ABSTRACT: A flow system for the determination of D-glucose in whole blood, in which segmented sample injection and on-line dialysis are used to decrease the red cell volume fraction (hematocrit) dependence, is described. Glucose was degraded enzymatically using immobilized glucose-dehydrogenase (EC-1.1.1.47). The nicotinamide coenzyme (NAD+) that was present in the solution was reduced in the enzymatic reaction and was reoxidized amperometrically at 0 mV vs Ag/AgCl (reference electrode) on a graphite electrode modified with phenoxazinium ion. The electrode system (working electrode, platinum auxiliary electrode and reference electrode) was connected to a potentiometer and a polyvinyl chloride dialyzer. The samples and air were pumped through the injector by peristaltic pumps at a rate of 2 ml/min. The carrier and acceptor streams were pumped simultaneously by means of 2 syringe pumps at 0.35 ml/min each. The potential use of the system for clinical analysis and the diagnosis of hyperglycemia and hypoglycemia was evaluated. (13 ref)

11/AB/51 (Item 4 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0071932 DBA Accession No.: 88-02781
Production of Rhodobacter capsulatus ATCC 23782 with short residence time in a continuous flow photobioreactor- 5-10 times more single cell protein produced than in batch culture
AUTHOR: Driessens K; Liessens J; Masduki S; Verstraete W; Nelis H; De Leenheer A
CORPORATE SOURCE: Laboratory of Microbial Ecology, State University of Ghent, Coupure Links 653, B-9000 Ghent, Belgium.
JOURNAL: Process Biochem. (22, 6, 160-64) 1987
CODEN: 7950W
LANGUAGE: English
ABSTRACT: The biomass produced by phototrophic bacteria can in principle be used as a source of single cell protein (SCP). The cultivation of Rhodobacter capsulatus ATCC 23782 in a continuous flow-through reactor on a synthetic medium was studied. The reactor (Fig 1) consisted of 2 parts. The glass reactor tube (1) was of 42 mm diameter and 1.4 m length. At the bottom 2 ports are provided, 1 for the the removal of excess biomass and the other for the entry of recirculated medium (8). A PVC decanter unit (2), 80 mm diameter, was mounted on top of the tube with ports for effluent removal, for recirculation and for flushing if strict anaerobic conditions are required. The substrate was

supplied by means of a peristaltic pump and the upflow liquid velocity was maintained at 1 m/hr with a hydraulic resistance time of 2.4 hr. A maximum of 10.41 g/l reactor per day biomass was obtained with Ca-lactate as the C-source and (NH4)2SO4 as the N-source. At the short resistance times imposed, the prototrophs grew in dense flocs with favorable sedimentation characteristics. (21 ref)

11/AB/52 (Item 5 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0034088 DBA Accession No.: 85-04877
Phosphatidylglycerol synthesis by phospholipase D in a microporous membrane bioreactor - using phosphatidylcholine conversion
AUTHOR: Lee S Y; Hibi N; Yamane T; Shimizu S
CORPORATE SOURCE: Laboratory of Bioreaction Engineering, Department of Food Science and Technology, Faculty of Agriculture, Nagoya University, Chikusa-ku, Nagoya 464, Japan.
JOURNAL: J.Ferment.Technol. (63, 1, 37-44) 1985
CODEN: JFTED8
LANGUAGE: English
ABSTRACT: Transphosphatidylation of lecithin to phosphatidylglycerol (PG) by phospholipase-D (PLD) (EC-3.1.4.4) was performed using a specially designed microporous hydrophobic membrane reactor (1). A polypropylene film membrane was placed between 2 grooved PVC resin plates. The PLD was purified from cabbage leaves by extraction with acetone and freezing with ethanol. A glycerol-buffer-PLD solution was passed through the compartment of the lower plate (2) and phosphatidylcholine (PC) solution was passed countercurrently in the grooves between the upper plate and the membrane (3). The enzyme solution was fed into the grooves between the lower plate and the membrane using a peristaltic pump (4). The reactor was maintained at 27 deg and the PLD solution was constantly recycled. The optimal concentration of glycerol for the synthesis of PG was 10-20%. The system used is advantageous as the interfacial area is constant; it does not require a surfactant or stirring; product separation from the enzyme solution is obviated; the enzyme is economically recycled, and continuous operation is possible for an industrial system. (20 ref)

?ds

Set	Items	Description
S1	14	AU=SKLAR? AND AU=EDWARDS? AND AU=KUCKUCK?
S2	5	RD (unique items)
S3	337	FLOW(W)CYTOMET?(W)(SYSTEM? OR APPARAT? OR DEVICE?)
S4	334	S3 NOT S1
S5	184	RD (unique items)
S6	0	S5 AND (PVC OR POLYVINYL OR POLY(W)VINYL OR PERISTALT? OR -HYDROPHOB?(W)PROBE? OR PROBE?(W)TIP? OR MULTISAMPL? OR MULTI(-W)SAMPL? OR AUTOSAMPL? OR AUTO(W)SAMPL?)
S7	0	S5 AND (AIR OR GAS)(5N)(JET? OR SEPARAT?)
S8	77	((POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR PVC) A-ND PERISTAL?
S9	58	RD (unique items)
S10	1	S9 AND PROBE?
S11	52	S9 NOT (INSEMINAT? OR GROUNDWATER? OR WINE? OR THROMBO?)
S12	18	((POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR PVC) A-ND (PROBE?(5N)(TIP? OR HYDROPHOB?))
S13	18	S12 NOT S8
S14	15	RD (unique items)

?t s14/3 ab/1-15

>>>No matching display code(s) found in file(s): 65, 342

14/AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
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04164443 INSPEC Abstract Number: A9213-4281P-013, B9207-7230E-014
Title: Fiber-optic calcium ion sensor using hydrophobic fluorescent probe
Author(s): Wakida, S.; Kawabata, Y.; Imasaka, T.; Higashi, K.; Ishibashi, N.
Author Affiliation: Dept. of Mater. Chem., Gov. Ind. Res. Inst., Osaka, Japan
Conference Title: TRANSDUCERS '91. 1991 International Conference on Solid-State Sensors and Actuators. Digest of Technical Papers (Cat. No.91CH2817-5) p.378-80
Publisher: IEEE, New York, NY, USA
Publication Date: 1991 Country of Publication: USA 1089 pp.
ISBN: 0 87942 585 7
U.S. Copyright Clearance Center Code: 91CH2817-5/91/0000-0378$01.00
Conference Sponsor: IEEE; Cerberus; Endress & Hauser; Ford; General Motors; Hewlett-Packard
Conference Date: 24-27 June 1991 Conference Location: San Francisco, CA, USA
Language: English
Abstract: A novel fiber-optic calcium ion sensor based on a calcium-sensing plasticized poly (vinyl chloride) membrane with a neutral carrier and a hydrophobic fluorescent probe (hexadecyl-acridine orange) was prepared. The fiber-optic Ca/sup 2+/ sensor showed a reversible response within 30 s (99% response) and a linear response between the fluorescent intensity of the sensor output and the logarithm of the Ca/sup 2+/ activity from 10/sup -6.5/ to 10/sup -3/ M. The optical selectivity of the prepared fiber-optic Ca/sup 2+/ sensor was almost the same as that of the conventional potentiometric Ca/sup 2+/ sensors.
Subfile: A B

14/AB/2 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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00526460
E.I. Monthly No: EI7603016451
E.I. Yearly No: EI76024299
Title: FIBEROPTIC LIQUID CRYSTAL PROBE FOR ABSORBED RADIO-FREQUENCY POWER AND TEMPERATURE MEASUREMENT IN TISSUE DURING IRRADIATION.
Author: Johnson, Curtis C.; Durney, Carl H.; Lords, James L.; Rozzell, Thomas C.; Livingston, Gordon K.
Corporate Source: Univ of Utah, Salt Lake City
Source: Annals of the New York Academy of Sciences v 247 1975, for Meet, New York Acad of Sci, NY, Feb 12-15 1974 p 527-531
Publication Year: 1975
CODEN: ANYAA9 ISSN: 0077-8923
Language: ENGLISH
Abstract: A temperature probe is described that is purposely designed to possess no metallic parts and thus is expected to be transparent to electromagnetic fields in tissue. The probe employs fiberoptics to transmit information to and from a sensor tip that consists of a liquid crystal thin film. The probe is sheathed in a polyvinyl chloride tube, and the liquid crystal is encapsulated between two nested glass cups. Some preliminary results indicate that this prototype device may provide a

breakthrough in making tissue measurements of absorbed radio-frequency power density. Such a device would help sovle many dosimetry problems. Not only will the device measure tissue temperature at the distal tip of the probe , but, by being able to measure rate of change of tissue temperature rise, it will also allow calculation of local absorbed radio-frequency power density.

14/AB/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09252123 Genuine Article#: 385JU Number of References: 12
Title: Ultrasmall ion-selective fiber optodes (ABSTRACT AVAILABLE)
Author(s): Kurihara K (REPRINT) ; Ohtsu M; Hisamoto H; Suzuki K
Corporate Source: Kanagawa Acad Sci & Technol,Takatsu Ku,3-2-1 Sakado/Kawasaki/Kanagawa 2130012/Japan/ (REPRINT); Kanagawa Acad Sci & Technol,Takatsu Ku,Kawasaki/Kanagawa 2130012/Japan/; Tokyo Inst Technol,Interdisciplinary Grad Sch Sci & Engn, Midori Ku,Yokohama/Kanagawa 2268502/Japan/; Keio Univ,Dept Appl Chem, Kohoku Ku,Yokohama/Kanagawa 2238522/Japan/
Journal: BUNSEKI KAGAKU, 2000, V49, N12 (DEC), P961-967
ISSN: 0525-1931 Publication date: 20001200
Publisher: JAPAN SOC ANALYTICAL CHEMISTRY, 26-2 NISHIGOTANDA 1 CHOME SHINAGAWA-KU, TOKYO, 141, JAPAN
Language: Japanese Document Type: ARTICLE
Abstract: The preparation and response features of a micrometer-sized sodium ion-selective fiber optode based on a liquid membrane were described. The sensing membrane is a plasticized poly (vinyl chloride)-based copolymer with a neutral ionophore and an anionic dye. In order to fabricate a micrometer-sized fiber optode, a "micropipette fabrication method" was newly proposed to fix a liquid membrane-based optode on the small tip of an optical fiber probe . At the first stage of the investigation, it was found that the ionophore including a sodium ion in its cavity leached from the membrane phase. However, we have discovered that the problem can be resolved by using a "tailed" ionophore, which is an ionophore possessing a lipophilic long alkyl chain. The "tail" of the ionophore functions as an "anchor", which prevents leaching of the ionophore from the membrane phase into the water phase. The anchor effect of the tailed ionophore was clearly demonstrated with 6 mum-sized sodium ion-selective optodes. In addition, the problem of fluorescence distortion due to photobleaching and solvent effect was resolved by a ratiometric calibration in which the sensor response is monitored by the spectral shift of the dual-emission fluorescence. The sensor response of an 8 mum-sized fiber optode having ratiometric calibration was examined and successfully explained by response theory. Our method gives a general preparation for ultrasmall ion-selective fiber optodes because other ion-selective optodes can be obtained simply by replacing the tailed ionophore.

14/AB/4 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

07941145 Genuine Article#: 227HM Number of References: 21
Title: Micrometer-sized sodium ion-selective optodes based on a ''tailed'' neutral ionophore (ABSTRACT AVAILABLE)
Author(s): Kurihara K; Ohtsu M (REPRINT) ; Yoshida T; Abe T; Hisamoto H; Suzuki K
Corporate Source: KANAGAWA ACAD SCI & TECHNOL,TAKATSU KU, 3-2-1

SAKADO/KAWASAKI/KANAGAWA 2130012/JAPAN/ (REPRINT); KANAGAWA ACAD SCI & TECHNOL,TAKATSU KU/KAWASAKI/KANAGAWA 2130012/JAPAN/; TOKYO INST TECHNOL,INTERDISCIPLINARY GRAD SCH SCI & ENGN, MIDORI KU/YOKOHAMA/KANAGAWA 2268502/JAPAN/

Journal: ANALYTICAL CHEMISTRY, 1999, V71, N16 (AUG 15), P3558-3566
ISSN: 0003-2700 Publication date: 19990815
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036
Language: English Document Type: ARTICLE

Abstract: The preparation and response features of a micrometer-sized sodium ion-selective fiber optode based on a liquid membrane were described. The sensing membrane is a plasticized poly (vinyl chloride)-based copolymer with a neutral sodium ionophore and an anionic dye, To fabricate a micrometer-sized fiber optode, a ''micropipet fabrication method'' was proposed to fix a liquid membrane-based optode on the small tip of an optical fiber probe , in which the optode size can be varied from similar to 1 mu m to more than PO pm. Our first optode incorporated an 16-crown-5 derivative as the neutral sodium ionophore and a dibromofluorescein derivative as the single-emission anionic dye. The sensor response was monitored by measuring the fluorescence intensity under a time-resolved photon-counting method, At the first stage of the investigation, it was found that the ionophore including a sodium ion in its cavity leached from the membrane phase. However, we have discovered that the problem can be resolved by using a ''tailed'' ionophore, which is an ionophore possessing a lipophilic long alkyl chain, The ''tail'' of the ionophore functions as an ''anchor'' that prevents leaching of the ionophore from the membrane phase into the water phase. The anchor effect of the tailed ionophore was clearly demonstrated with 6-mu m-sized sodium ion-selective optodes, Using a 3-mu m-sized optode, the sensor response was examined and successfully explained by the response theory. The size limitation of the optode was also examined using the response features of a 1.5-mu m-sized fiber optode, The second optode incorporated a tailed 16-crown-5 derivative as the neutral sodium ionophore and a coumarin derivative as the dual-emission anionic dye, The second optode is more practical than the first optode because the problem of fluorescence distortion due to photobleaching and solvent effect is resolved by ratiometric calibration where the sensor response is monitored by the spectral shift of the dual-emission fluorescence. The sensor response of an 8-mu m-sized fiber optode having ratiometric calibration was examined and successfully explained by the response theory.

14/AB/5 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

10089694 PASCAL No.: 92-0295313
Calcium-selective optrodes with laser-induced fluorescence method
International congress on analytical sciences. II, Chiba, Japan, 25-31 August 1991
WAKIDA S I; KAWABATA Y; IMASAKA T; HIGASHI K; ISHIBASHI N
KURODA Rokuro, ed; NIKI Eiji, pref
Government industrial res. inst., dep. material chemistry, Ikeda, Osaka 563, Japan
Univ. Chiba, Japan
International Union of Pure and Applied Chemstry, Oxford, United Kingdom. ; Sci. Council of Japan, Japan.; Japan Society for Analytical Chemistry, Tokyo, Japan.
ICAS'91. International congress (Chiba JPN) 1991-08-25
Journal: Analytical sciences, 1991, 7 (2 SUP) 1469-1470

Language: English
New calcium-selective optrodes based on a Ca SUP 2 SUP + -sensing plasticized PVC membrane and a hydrophobic fluorescent probe were prepared with laser-induced fluorescence method. The Ca SUP 2 SUP + -selective optrodes showed reversible responses within 30 seconds (99% response). The optrodes based on hexadecyl-acridine orange (hexadecyl-AO SUP +) showed linear responses between fluorescent intensity and logarithm of the Ca SUP 2 SUP + activity from 10 SUP - SUP 6 SUP . SUP 5 to 10 SUP - SUP 3 M with almost the same potentiometric selectivity

14/AB/6 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013557035
WPI Acc No: 2001-041242/200105
XRPX Acc No: N01-030738
Disposable tissue probe tip for use in connection with an optical probe comprises optical probe with disposable tip releasably attached with engaging recess in mating section adapted to releasably secure the tip to the probe
Patent Assignee: HUTCHINSON TECHNOLOGY INC (HUTC-N)
Inventor: LEWANDOWSKI M S; MYERS D E; ORTNER J P; QUAST K R; RUPP D L; SCHMIDT M A
Number of Countries: 092 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200074562	A1	20001214	WO 2000US40086	A	20000601	200105	B

Priority Applications (No Type Date): US 99137383 A 19990603
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200074562	A1	E	21	A61B-005/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

Abstract (Basic): WO 200074562 A1
Abstract (Basic):
NOVELTY - The disposable tissue probe comprises optical probe (10) with disposable tip (100) releasably attached, with an insert (12) holding optical fibers and held by a housing (20). A mixer fiber (28) is located between the ferrule (26) and the tissue-facing surface. The tip includes a one-piece mold having boot (106) and tissue-engaging surface (108). A probe-engaging recess (110) is in the mating section (106) adapted to releasably secure the tip to the probe .
USE - For use as a disposable tissue probe used in connection with an optical probe.
ADVANTAGE - The probe tip is used in connection with an optical probe of a medical instrument with the tip providing a high degree of light coupling between the probe and tissue being analyzed and high degree of patient hygiene.
DESCRIPTION OF DRAWING(S) - Figure of a exploded perspective view of the probe and disposable tip .
Optical probe (10)
Insert (12)
Housing (20)

Ferrule (26)
Mixed fiber (28)
Disposable tip (100)
Mating section (106)
Tissue-engaging surface (108)
Probe-engaging recess (110)
pp; 21 DwgNo 4/7

14/AB/7 (Item 2 from file: 351)
DIALOG(R)File 351:Derwent WPI

011295522
WPI Acc No: 1997-273427/199725
XRAM Acc No: C97-088137
XRPX Acc No: N97-226395
Trachea tube with integral temperature probe - comprises shaft and supply tube and collar section
Patent Assignee: WINS P R (WINS-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19543072	A1	19970515	DE 1043072	A	19951111	199725	B

Priority Applications (No Type Date): DE 1043072 A 19951111
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19543072	A1		4	A61M-016/04	

Abstract (Basic): DE 19543072 A
A trachea tube consists of a shaft and a supply tube which is connected to a collar unit and located near the tube tip . A temperature probe is located immediately under the collar, and is 3-5 mm wide and has two flexible insulation cable connections. The tube preferably consists of PVC or silicone.
USE - The device is used as a trachea tube.
ADVANTAGE - The tube is simple and effective.
Dwg.0/1

14/AB/8 (Item 3 from file: 351)
DIALOG(R)File 351:Derwent WPI

011293795
WPI Acc No: 1997-271700/199724
XRAM Acc No: C97-087312
XRPX Acc No: N97-225227
Etching system for wire to be used as scanning tunnelling microscope tip - including wire holder, container for sodium hydroxide etching solution and means to immerse wire into solution
Patent Assignee: MOLECULAR IMAGING CORP (MOLE-N)
Inventor: JING T; LINDSAY S M; LYUBCHENCKO Y L; GALL A A; LYUBCHENKO Y L
Number of Countries: 020 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9710901	A1	19970327	WO 96US13837	A	19960828	199724	B
US 5630932	A	19970520	US 95524054	A	19950906	199726	
EP 847309	A2	19980617	EP 96929770	A	19960828	199828	
			WO 96US13837	A	19960828		

US 6017590 A 20000125 US 95524054 A 19950906 200012
US 96760757 A 19961205

Priority Applications (No Type Date): US 95524054 A 19950906; US 96760757 A 19961205
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9710901	A1	E	40	B05C-001/18	
Designated States (National): JP KR					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 6017590	A			B05D-001/00	Div ex application US 95524054 Div ex patent US 5630932
US 5630932	A		16	C25F-003/14	
EP 847309	A2	E		B05C-013/02	Based on patent WO 9710901
Designated States (Regional): DE FR GB					

Abstract (Basic): WO 9710901 A

Tip etching system for a piece of wire to be used as a scanning tunnelling microscope (STM) tip comprises receiving means for a piece of wire of a predetermined fixed length, a liquid etching solution in a container comprising 1-10M sodium hydroxide (NaOH), means to immerse wire into etching solution and means to remove wire from etching solution. Also claimed are: (a) a system as above including an electrical connection for the wire, a counter electrode in the etching solution with a second connection and a bipolar signal source generating an a.c. signal connected to the two electrical connections; (b) processes for etching a Pt-containing wire to form an STM tip using the above apparatus; (c) a tip coating system for coating a STM tip with a narrow end and larger diameter end including means to hold thick end of tip, a plate with a narrow slot holding a coating material, means to heat the plate and melt the coating to form a blob, means to move the holder so the STM tip is displaced into the blob, mean to lower and raise the STM tip, and means to displace the holder away from the blob; (d) STM tips comprising a metal wire with a pointed end coated with one of polypropylene (PP), high density polyethylene (HDPE), an electrically insulating polymer having an elongation break of at least 20%, polyamide, ethylene vinyl alcohol, PTFE, Ionomer, polybutylene silicone or PVC ; (e) processes for preparing a gold (Au) substrate for use in a scanning probe microscope (SPM); (f) mica substrates for use in atomic force microscopy (AFM); (g) processes for the preparation of a mica substrate as above by reacting one of (O-alkyl)-Si-alkyl-halogen, alkyl-Si-alkyl, halogen-Si-alkyl or 1,1,3,3,3-hexamethyldisilazane (HMDS) with surface of mica substrate to make it hydrophobic; (h) processes for preparing a Si-containing AFM probe tip similar to (g).

USE - Used for tip and substrate preparation for SPMs,process for coating STM tips for electrochemical use, substrate treatment process for producing clean, flat Au substrates for STM and processes for preparing chemically activated substances for use with AFM.

ADVANTAGE - The tip and substrate preparation systems are easy to use in the laboratory by a normal laboratory worker. The tip maker fully automates the tip etching process and is reliable while only using simple cyanide-free etching solutions. Multistage etching processes may be carried out using the same apparatus and solutions. Many tips may be efficiently etched at the same time. The noble metal films are easily and efficiently annealed on mica substrates.

Dwg.1/12

Abstract (Equivalent): US 5630932 A

A tip etching system for etching a piece of platinum containing wire to be used as an STM tip, the system comprising: receiving and

holding the piece of platinum containing wire; a liquid etching solution adapted for being disposed in a container, the liquid etching solution comprising sodium hydroxide at a concentration in the range of about 1M to about 10M; immersion means for immersing a portion of the piece of platinum containing wire into the liquid etching solution; and means for removing the piece of platinum containing wire from the liquid etching solution, wherein the piece of wire comprises platinum metal.

Dwg.1/12

14/AB/9 (Item 4 from file: 351)
DIALOG(R)File 351:Derwent WPI

009851804
WPI Acc No: 1994-131660/199416
XRAM Acc No: C94-060703
XRPX Acc No: N94-103663
Attachment removing device in waste plastics test probe - with heated needle and contact adjusting member
Patent Assignee: HITACHI ZOSEN CORP (HITF)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 6079729	A	19940322	JP 92233281	A	19920901	199416	B

Priority Applications (No Type Date): JP 92233281 A 19920901
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6079729	A		4	B29B-017/02	

Abstract (Basic): JP 6079729 A

A test probe comprises a probe body (1), a heated needle (2) in the probe body, and a contact adjusting member (3) which can freely advance and retreat from the probe body (1) at its tip through a pushing mechanism (4). An attachment vaporisation heater (5) is present in the contact adjustment member (3) or the probe body (1) to heat the tip of the heated needle after it has left a particle to be tested.

USE/ADVANTAGE - Used in a test device to check the presence of polyvinyl chloride in plastics waste.

In an example, the molten plastics attached to the heated needle after the detection operation can be completely removed by the attachment vaporisation heater. Thus, waiting for the plastics attached to the heated needle to evaporate is eliminated, resulting in a redn. in test time.

Dwg.1/1

14/AB/10 (Item 5 from file: 351)
DIALOG(R)File 351:Derwent WPI

009851802
WPI Acc No: 1994-131658/199416
XRAM Acc No: C94-060701
Attachment removing device in waste plastics test prove - comprises freely moving probe with a heated needle
Patent Assignee: HITACHI ZOSEN CORP (HITF)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6079727	A	19940322	JP 92233283	A	19920901	199416 B

Priority Applications (No Type Date): JP 92233283 A 19920901
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6079727	A		4	B29B-017/00	

Abstract (Basic): JP 6079727 A

A prove comprises a probe body (1) which can move freely in a pushing direction, a heated needle (2) provided in the probe body, and a contact adjustment member (3) which can move freely at the tip of the probe body through a pushing mechanism (4). A scraping member (5) is provided in the contact adjustment member (3) or in the probe body (1) so that the attachments to the tip of the heated needle (2) are removed by the scraping member after the heated needle has left the article to be tested.

USE/ADVANTAGE - Used in testing device to check the presence or absence of polyvinyl chloride in waste plastics discharge as urban waste or industrial waste. The molten plastics attached to the heated needle after the test operation can be scraped off by the scraping member. Thus, waiting for the plastics attached to the heated needle to evaporate is eliminated and the test time can be shortened

Dwg.1/2

14/AB/11 (Item 6 from file: 351)
DIALOG(R)File 351:Derwent WPI

009746061
WPI Acc No: 1994-025912/199403
Related WPI Acc No: 1994-025913
XRAM Acc No: C94-011946
XRPX Acc No: N94-020187
Endotracheal probe e.g. catheter - has top of soft material supple extruded tube and inflatable balloon reduces risk of trauma to patient
Patent Assignee: VYGON SA (VYGO-N)
Inventor: BRINON T; ROSSI D; ROY P
Number of Countries: 019 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9400174	A1	19940106	WO 93FR636	A	19930624	199403	B
FR 2692789	A1	19931231	FR 927909	A	19920626	199405	

Priority Applications (No Type Date): FR 927909 A 19920626
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9400174	A1	F	21	A61M-025/00	
	Designated States (National): CA JP US				
	Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE				
FR 2692789	A1		16	A61M-016/04	

Abstract (Basic): WO 9400174 A

The probe consists of a supple tube (3), produced by extrusion and equipped with an inflatable balloon (8) linked to an inflation/deflation system. The probe has a supple tubular tip (4) which is joined end to end onto the distal end of the main tuve (3) and formed by injection moulding and the two ends (9,10) of the balloon are joined to the main tube and the additional tip respectively.

The adjoining ends of the supple tip and main tube can be cut at an angle to give a progressive variation in the mechanical properties of the probe or, in a variant, the supple tip and main tube can be connected via an intermediate tube with a hardness between that of the tip and the main tube. The intermediate tube can also be made in a number of sections with a progressively increasing hardness. The supple tip (4) can be made for example from plasticised PVC , or from a plastic which is opaque to X-rays and has a hardness of 6-75 Shore, compared with 75-85 for the main tube.

USE/ADVANTAGE - Used esp. as endotracheal catheter. Combines ease of manipulation with less risk of trauma to patient.

Dwg.4/7

14/AB/12 (Item 7 from file: 351)
DIALOG(R)File 351:Derwent WPI

004664229
WPI Acc No: 1986-167571/198626
XRAM Acc No: C86-072120
Laser beam irradiation system - using optical lenses for uniform heating and fusion of synthetic resin material
Patent Assignee: TOYOTA JIDOSHA KK (TOYT)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 61102238	A	19860520	JP 84224484	A	19841025	198626	B
JP 87058901	B	19871208				198801	

Priority Applications (No Type Date): JP 84224484 A 19841025
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 61102238	A		7		

Abstract (Basic): JP 61102238 A

At one end of tubular main body the laser beam irradiating optical fibre is connected, and guide tube for laser beam is connected to the other end of main body. Optical lenses are placed inside the main body at certain spacings. Probe of laser beam transmitting material is provided at the tip of guide tube. Tip of the probe shows stepped cone shape.

Laser beam transmitting material of probe tip includes quartz glass, or polypropylene resin etc. Synthetic resin material used for adhesion is polyethylene, PVC , polypropylene, etc.

ADVANTAGE - Laser beam irradiation of resin material can be effected at required parallel beam dia. with the aid of optical lenses so that uniform heating and fusion of resin material is obtd. (7pp Dwg.No 0/5

14/AB/13 (Item 8 from file: 351)
DIALOG(R)File 351:Derwent WPI

001797619
WPI Acc No: 1977-18585Y/197711
Slotted tubular probe, of e.g. silicone rubber, for prosthetic drain - contracted in situ to open and anchor the head
Patent Assignee: RHONE POULENC IND (RHON)
Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2312264	A	19770128				197711	B

Priority Applications (No Type Date): FR 7516298 A 19750526

Abstract (Basic): FR 2312264 A

Tubular probe with a cylindrical elastic tip which can be deformed by tension on a coaxial cord or draw bar to distend part of the walls radially. The walls are slotted to facilitate the deformation and to provide openings through which the probe can drain a vessel or organ into which the probe is inserted. The probe body and/or head may be of polyurethane PVC or tubber, pref. silicone rubber.

Used esp. for probes to be worn continuously for draining bladders etc., pref. in the form of a 'Malecot' probe e.g.-15-50 cm long, 1-10 mm bore. Insertion and removal are easy because the probe head can be distended/collapsed after/prior to insertion/withdrawal. The probe head is self-anchoring. The slots drain effectively without trapping liq. alongside the probe head

14/AB/14 (Item 9 from file: 351)
DIALOG(R)File 351:Derwent WPI

001153764
WPI Acc No: 1974-27541V/197415
Perforation of sheet materials - using electrical discharge conductors with annular air jets to constrain spark path
Patent Assignee: MISHIMA PAPER MFG KK (MIPA); SANYO PULP MISH PAP CO (SANN)
Number of Countries: 005 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2192899	A	19740322				197415	B
GB 1362360	A	19740807				197432	
US 3862396	A	19750121				197505	
DE 2310047	B	19780112				197803	
JP 49028994	A	19740314				199144	

Priority Applications (No Type Date): JP 7270719 A 19720717

Abstract (Basic): FR 2192899 A

Sheet materials are passed over an earthed conductor while an adjacent bank of probe electrodes receive power impulses which are through the passing sheet to the conductor on the opposite side, Where each probe tip is surrounded by a coaxial jet of gas (compressed air) also impinging against the face of the sheet. The probe electrodes do not touch the target sheet. For perforating natural or synthetic sheet materials to control e.g. porosity or permeability. The moving air constrains successive sparks from deviating preferentially to the charred or ionised borders of downstream perforations from previous sparks. Will process fragile films without proviking physical damage or hang-ups by contact. For PVC film approx. 300 mu thick passing at 120 m/min. past a 3 kHz arc discharge system activating W filaments 3 mm apart to 15kV, air jets at 2kg/cm2 increased the number of perforations per unit area from 5-7 to 15-20, decreased the perforation dia. from 300-500 to 50-100 mu and reduced the colour of the perforation boundaries from 'dark chestnut' (reddish-brown) to 'light chestnut'.

14/AB/15 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0120308 DBA Accession No.: 91-07950
Bioluminescence-based fibre-optic sensor with entrapped co-reactant: an approach for designing a self-contained biosensor- immobilized luciferase-oxidoreductase system for light emission; flavin mononucleotide and aldehyde non-covalent immobilization in polyvinyl chloride support; NADH analysis
AUTHOR: Gautier S M; Blum L J; +Coulet P R
CORPORATE SOURCE: Laboratoire de Genie Enzymatique, UMR 106, CNRS, Universite Lyon 1, Bat. 308, 43 Bd. du 11 Novembre 1918, F-69622 Villeurbanne Cedex, France.
JOURNAL: Anal.Chim.Acta (243, 2, 149-56) 1991
CODEN: ACACAM
LANGUAGE: English
ABSTRACT: The design of a self-contained optic fiber biosensor, that can be used without renewing reagents in the optic fiber probe, is described. A probe specific for NADH had immobilized luminescent enzymes that required the presence of 2 co-reactants (a flavin mononucleotide (FMN) and an aldehyde) to catalyze light emission. The bacterial luciferase (EC-1.14.14.3)-oxidoreductase system from Vibrio harveyi was used because of its high stability. The FMN was non-covalently immobilized in a synthetic film and was internally released in the vicinity of the bound enzymes, at the tip of the probe . Release of FMN was achieved from the 2 different supports tested: a collagen film and a polyvinyl alcohol (PVA) network. Continuous-flow assays of NADH were performed over a linear dynamic range from 10 pmol to 1 nmol. A PVA support has potential for designing a self-contained biosensor, as 30-35 reliable measurements (R.S.D = 5%) were achieved without a decrease in the sensor signal, compared with only 10-15 assays with a collagen film. (13 ref)
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show files
File  2:INSPEC 1969-2001/Feb W1
        (c) 2001 Institution of Electrical Engineers
File  5:Biosis Previews(R) 1969-2001/Feb W1
        (c) 2001 BIOSIS
File  6:NTIS 1964-2001/Feb W3
        Comp&distr  2000 NTIS, Intl Cpyrght All Right
File 10:AGRICOLA 70-2001/Jan
        (c) format only 2001 The Dialog Corporation
File 34:SciSearch(R) Cited Ref Sci 1990-2001/Feb W1
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        (c) 2001 Cambridge Sci Abs
File 77:Conference Papers Index 1973-2000/Nov
        (c) 2000 Cambridge Sci Abs
File 144:Pascal 1973-2001/Feb W1
        (c) 2001 INIST/CNRS
File 155:MEDLINE(R) 1966-2000/Dec W4
        (c) format only 2000 Dialog Corporation
File 172:EMBASE Alert 2001/Feb W1
        (c) 2001 Elsevier Science B.V.
File 351:Derwent WPI 1963-2000/UD,UM &UP=200108
        (c) 2001 Derwent Info Ltd
File 357:Derwent Biotechnology Abs 1982-2001/Apr B1
        (c) 2001 Derwent Publ Ltd
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
        (c) 1998 Inst for Sci Info
?ds

Set     Items   Description
S1     220574   FLOW(2N)CYTOMET?
S2          4   S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3          1   RD (unique items)
?t s3/3 ab/1

 3/AB/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
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09727450   BIOSIS NO.: 199598182368
Computer software for testing drug susceptibility of malaria parasites.
AUTHOR: Reinders Paul P(a); Van Vianen Philip H; Van Der Keur Maarten; Van
  Engen Anneloes; Janse Chris J; Tanke Hans J
AUTHOR ADDRESS: (a)Dep. Hematol., Room E1-Q74, Acad. Hosp. Leiden, P.O. Box
  9600, 2300 RC Leiden**Netherlands
JOURNAL: Cytometry  19 (3):p273-281 1995
ISSN: 0196-4763
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A computer program is described for the automated analysis of
  data obtained by flow   cytometry  for in vitro an drug susceptibility
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testing. Samples of malaria-infected red blood cells (RBC), which were cultured in the presence of different concentrations of an-drugs, were stained with Hoechst. The Hoechst fluorescence intensity of infected RBC corresponds to DNA content of the parasites and to their stage of development. After measurement of the samples by a FACStar flow cytometer equipped with a UV laser and an autosampler , FCS 1.0 data files were generated. The HP PASCAL program developed for these files identifies five different populations-uninfected RBC, infected RBC, free parasites, leukocytes, and debris-on the basis of their light scatter and fluorescence characteristics. The program calculates the percentage of infected cells, the total number of parasite nuclei, and the average number of nuclei per parasite. The results of each culture are presented as a drug dose-response curve. During data analysis, user interaction is limited to selecting the first file of the first culture. The algorithm then processes each culture automatically. Potential problems or difficulties in analysis are flagged. To date, a total of 862 drug tests have been evaluated and fail into two classes, an extended microtest and the World Health Organization standardized microtest. These tests gave satisfactory results in more than 99% of the cases.

1995
?ds

Set	Items	Description
S1	220574	FLOW(2N)CYTOMET?
S2	4	S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3	1	RD (unique items)
S4	2	S1 AND (PERISTAL?(W)PUMP?)
S5	2	RD (unique items)

?t s5/3 ab/1-2

5/AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6755371 INSPEC Abstract Number: A2000-24-8780-018, B2000-12-2575-007
Title: Single molecule and cell manipulation in soft microfluidic devices
Author(s): Quake, S.
Author Affiliation: Dept. of Appl. Phys., California Inst. of Technol., Pasadena, CA, USA
Conference Title: 2000 IEEE/LEOS International Conference on Optical MEMS (Cat. No.00EX399) p.55
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2000 Country of Publication: USA 155 pp.
ISBN: 0 7803 6257 8 Material Identity Number: XX-2000-02303
U.S. Copyright Clearance Center Code: 0 7803 6257 8/2000/$10.00
Conference Title: 2000 IEEE/LEOS International Conference on Optical MEMS
Conference Sponsor: IEEE/LEOS; OSA
Conference Date: 21-24 Aug. 2000 Conference Location: Kauai, HI, USA
Language: English
Abstract: Summary form only given as follows: We have been using soft lithography to make microfluidic chips for ultrasensitive analysis of single DNA molecules and cells. There are numerous advantages to fabricating chips out of polymeric materials, and as a result we have been able to rapidly and inexpensively fabricate active devices with moving parts, such as pinch valves and peristaltic pumps . We have also developed a microfabricated flow cytometry chip as a replacement for analytical pulsed field gel electrophoresis. Assays with these chips are two orders of magnitude faster than pulsed field gels and use a million times less material. Because they are detecting single molecules, their sensitivity is comparable to PCR based techniques. We have also developed a

microfabricated fluorescence activated cell sorter and demonstrated its use in screening bacterial cells. The novel valve and pump components for on-chip fluidic manipulation that we developed in the course of this research will be useful for fabricating more complex chip designs for a variety of biotechnological applications.
Subfile: A B

5/AB/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

01404089 EMBASE No: 1979124863
A cooling device for flow cytometric systems
Prudhomme D.
Surg. Immunol. Lab., VA Hosp., Miami, Fla. 33125 United States
Stain Technology (STAIN TECHNOL.) (United States) 1978, 53/5 (300-301)
CODEN: STTEA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

A peristaltic pump moves cold water in a closed system through copper coils immersed in an ice bath, then through thin-walled plastic tubing to a second smaller copper coil closely wound to fit the sample holder. The tubing enters and exits through a notch cut in the safety door of the sample holder.
?ds

Set	Items	Description
S1	220574	FLOW(2N)CYTOMET?
S2	4	S1 (S)(AUTO(W)SAMPL? OR AUTOSAMPL?)
S3	1	RD (unique items)
S4	2	S1 AND (PERISTAL?(W)PUMP?)
S5	2	RD (unique items)
S6	666	S1 (S)PUMP?
S7	1	S6 AND PERISTAL?
S8	86009	S1 AND (POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR -PVC
S9	46	S1 AND ((POLY(W)VINYL OR POLYVINYL)(W)(CHLORIDE? OR CL) OR PVC)
S10	16	RD (unique items)

?t s10/3 ab/1-16

10/AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

5594461 INSPEC Abstract Number: A9713-8725-007
Title: Dynamic blood cell contact with biomaterials: validation of a flow chamber system according to international standards
Author(s): Otto, M.; Klein, C.L.; Kohler, H.; Wagner, M.; Rohrig, O.; Kirkpatrick, C.J.
Author Affiliation: Inst. of Pathology, Johannes Gutenberg Univ., Mainz, Germany
Journal: Journal of Materials Science: Materials in Medicine vol.8, no.3 p.119-29
Publisher: Chapman & Hall,
Publication Date: March 1997 Country of Publication: UK
CODEN: JSMMEL ISSN: 0957-4530
SICI: 0957-4530(199703)8:3L.119:DBCC;1-8

Material Identity Number: N686-97003
Language: English

Abstract: The increasing number of patients requiring prosthetic substitution of segments of the vascular system strongly supports the need to optimize a relevant, standardized testing panel for new materials designed for synthetic vascular prostheses. The ISO gives the standard requirements for testing biomaterials provided for implantation. The authors' primary interest was the establishment of a reliable in vitro panel as a useful and relevant screening system for vascular implant devices to evaluate blood/device interactions under flow conditions. The aim of the present study was to evaluate influences of different flow conditions on blood cell-biomaterial interactions with special emphasis on the interactions of human granulocytes (PMN) and polymeric surfaces. PMN were isolated and vital cells were quantified by flow cytometrical analysis directly before, as well as immediately after the experiments. The viscosity of the final cellular suspension was analysed by using a computerized cone-plate rheometer. As reference materials the authors used FEP-teflon, PVC -DEHD, PU, PP and PE. Dacron and ePTFE synthetic vascular protheses were tested in a comparative way to those references. The adhesion processes were observed over a period of 40 minutes under arterial (shear stress 0.74 Pa) and venous (shear stress 0.16 Pa) flow conditions in a parallel plate flow chamber system under highly standardized conditions and laminar flow. The cells were observed with the help of inverse light microscopy. Cell behaviour was recorded and analysed in both analogue (video) and digital (imaging system) modes. Samples of the cell suspensions were obtained at regular time intervals and analysed by enzyme linked immune sorbent assay (ELISA) to quantify LTB/sub 4/ release. Irrespective of the material, approximately 3 to 4 times more PMN adhered to the biomaterial surfaces under venous flow conditions compared to the arterial. Shear intensity did not influence the running order of biomaterials with respect to cell numbers. This response in descending order at the end of the experiments was as follows: PU, PVC -DEHD, PP, PE and ePTFE. The biochemical analyses indicate that in the system used only a weak effect on LTB/sub 4/ release induced by the different materials could be determined. A significant effect caused by flow conditions was not observed. Further experiments, both static as well as dynamic, must be performed for multiple, relevant parameters of haemocompatibility, for potential biomaterials as well as those currently in use in vascular prostheses.

Subfile: A

10/AB/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11823082 BIOSIS NO.: 199900069191
Induced cell trauma during in vitro perfusion: A comparison between two different perfusion systems.
AUTHOR: Skogby M(a); Mellgren K; Adrian K; Friberg L G; Chevalier J Y; Mellgren G
AUTHOR ADDRESS: (a)Dep. Pediatr. Intensive Care, Sahlgrenska Univ. Hosp./Ostra Sjukhuset, S-416 85 Goteborg**Sweden
JOURNAL: Artificial Organs 22 (12):p1045-1051 Dec., 1998
ISSN: 0160-564X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The purpose of this study was to compare blood cell activation during in vitro long-term perfusion using 2 parallel in vitro

extracorporeal membrane oxygenation (ECMO) systems. We compared two substantially different perfusion systems, an assistance respiratoire extra corporelle (AREC) system on one hand, containing an AREC pump, silicon tubing, and a hollow-fiber oxygenator, and a centrifugal pump system, on the other hand, containing a Biomedicus centrifugal pump, PVC tubing, and a membrane oxygenator. We measured the platelet count using an automated blood cell counter. Platelet activation was evaluated using a flow cytometric technique for the platelet membrane expression of glycoproteins and ELISA for the plasma concentration of beta-thromboglobulin (beta-TG), a platelet specific protein released into the blood upon platelet activation. The neutrophil count was assayed using an automated blood cell counter and the plasma concentration of cytokines using an ELISA kit. A significant difference between the two systems was observed in terms of the platelet membrane expression of glycoprotein (GP)Ib ($p = 0.0001$) and GPIIb/IIIa ($p = 0.0037$), indicating a lower degree of platelet activation in the AREC system. The concentration of neutrophils was significantly lower in the centrifugal system ($p = 0.002$) compared to the AREC system. The neutrophil membrane expression of CD11b was significantly lower ($p = 0.0067$) in the AREC system, indicating a lower degree of neutrophil activation compared to the centrifugal pump system. A significantly lower degree of hemolysis, as expressed by plasma hemoglobin, was observed in the AREC pump system ($p = 0.0491$). In conclusion, lower degrees of the platelet membrane expression of GPIb and GPIIb/IIIa and of the neutrophil membrane expression of CD11b were observed in the AREC system, indicating a lower degree of platelet and neutrophil activation in this system. No significant difference between the two systems as to the plasma concentration of interleukin (IL)-1beta, IL-6, or IL-8 could be recorded. Further studies are warranted to specify the role of each individual component of the two systems.

1998

10/AB/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11811927 BIOSIS NO.: 199900058036
Polymorphonuclear cell apoptosis in exudates generated by polymers.
AUTHOR: Fabre T(a); Belloc F; Dupuy B; Schappacher M; Soum A; Bertrand-Barat J; Baquey C; Durandeau A
AUTHOR ADDRESS: (a)INSERM U-443, Univ. Bordeaux II, 146 rue Leo-Saignat, 33076 Bordeaux Cedex**France
JOURNAL: Journal of Biomedical Materials Research 44 (4):p429-435 March 15, 1999
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Flow cytometry was used to quantify apoptotic and necrotic polymorphonuclear (PMN) cells in an exudate generated by biomaterials, and the results were compared with determinations of spontaneous apoptosis and necrosis in PMN cells from the bloodstream. The exudate formed inside cylindrical tubes subcutaneously implanted in the dorsal region of rats was collected over a 1-week period. A rapid and simple staining procedure based on the spectral properties of the bisbenzemide Hoechst 33342 was used to identify apoptotic PMN cells. Quantification of permeabilized PMN cells stained by propidium iodide was possible in the same unfixed specimens. The percentages of apoptotic and permeabilized

PMN cells in peripheral rat blood were low (1.8 +- 0.5% and 1.7 +- 0.7%, respectively), similar to results found in humans. In exudates generated by polyvinyl chloride (PVC), the percentages of apoptotic and permeabilized PMN cells were higher than in the blood. The percentage of PMN cells undergoing apoptosis progressively increased with time and reached a maximum at day 2 (27% +- 6%). The percentage of permeabilized cells progressively increased with time and was much higher than the percentage of apoptotic cells on days 4 and 8. Apoptosis and necrosis of PMN cells at day 2 were inhibited when tubes were filled with 10% serum. Selective inhibition of apoptosis with a caspase inhibitor in vivo indicated that apoptosis and necrosis are two separate pathways leading to the death of PMN cells in the exudate. At day 2, polyurethane (PU) was associated with a lower rate of apoptosis than PVC or a random copolymer of trimethylene carbonate (TMC) and epsiloncaprolactone (ECL). Apoptosis was interpreted as an organized cell removal process that limits inflammation. Apoptosis was the natural route of PMN cell death at the early stage of inflammation.

1999

10/AB/4 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11349647 BIOSIS NO.: 199800130979
The storage lesion of single donor platelets: Insights from flow cytometric analysis and transmission electron microscopy.
AUTHOR: Gutensohn K(a); Schaefer P; Krueger W; Loeliger C C; Asmussen C; Geidel K; Kuehnl P
AUTHOR ADDRESS: (a)Abteilung Transfusionmed./Transplantationsimmunol., Univ.-Krankenhaus Eppendorf, Universitaet Ha**Germany
JOURNAL: Infusionstherapie und Transfusionmedizin 24 (6):p412-418 Dec., 1997
ISSN: 1019-8466
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English; German

ABSTRACT: Background: During storage, platelets undergo morphological and immunological alterations. This study was performed to investigate the influence of storage on platelet antigens by flow cytometry and on morphology by electron microscopy. Materials and Methods: Platelet concentrates (n=24) were prepared by continuous-flow centrifugation plateletpheresis. Afterwards, they were stored in polyvinylchloride (PVC) containers for 7 days. Aliquots were taken daily to examine platelet glycoproteins CD41a, CD42b, CD62p, and CD63 by flow cytometry . Every second day, aliquots were drawn for electron microscopic analyses. Results: During storage, the expression of CD62p (P-selectin) and CD63 (gp53) progressively increased. Mean channel fluorescence intensity (MCFI) for CD62p increased from day 1 to day 7 from 21.3 to 43.4 ($p < 0.05$), MCFI of CD63 from 19.5 to 29.5 MCFI ($p < 0.05$). MCFI of CD41a decreased from 1,165.2 to 1,119.0 and subsequently returned to baseline levels ($p < 0.05$). MCFI of CD42b continuously decreased from 301.6 to 279.7 from day 0 to 7 ($p < 0.05$). Transmission electron microscopy (TEM) revealed progressive platelet activation and destruction. Over the storage period external and internal reorganization became clearly apparent. Conclusion: During storage of platelet concentrates, antigens and morphology of platelets are altered. Flow cytometry and TEM provide insights into the storage lesion and are suitable techniques for

quality control of platelet concentrates and evaluation of biocompatibility. However, due to the more objective, faster and more sensitive analysis, only flow cytometry may also be suitable for routine applications in quality control.

1997

10/AB/5 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11340602 BIOSIS NO.: 199800121934
Quantification of the inflammatory response in exudates to three polymers implanted in vivo.
AUTHOR: Fabre T(a); Bertrand-Barat J; Freyburger G; Rivel J; Dupuy B; Durandeau A; Baquey C
AUTHOR ADDRESS: (a)INSERM-U 443, Univ. Bordeaux II, 146 rue Leo Saignat, 33076 Bordeaux Cedex**France
JOURNAL: Journal of Biomedical Materials Research 39 (4):p637-641 March 15, 1998
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Flow cytometry was used to quantify an inflammatory reaction in vivo as a new approach to evaluating the biocompatibility of biomaterials. The exudate formed inside cylindrical tubes composed of polyvinyl chloride (PVC), silicone elastomer (SIL), or polyurethane (PU) implanted subcutaneously in the dorsal region of rats was collected over a 3-week period. The volume, number of cells, and concentration of fibrinogen were determined in the exudate for the three biomaterials. The exudate was analyzed using a flow cytometry technique after labeling of the leukocytes with a monoclonal anti-CD45 antibody. Fibrinogen rose progressively over the 3-week period for the three polymers. After the different leukocyte lines were identified in rat blood samples, their determination in the exudate revealed differences among the three biomaterials. At day 2, PVC induced a predominantly neutrophilic inflammatory reaction whereas PU and SIL gave a mixture of monocytes and neutrophils. At day 9, the aspect of the cytograms was different, but the identification of the subpopulations was still possible. At day 23, the number of cell events became too low to distinguish the subpopulations. An even more detailed approach might be possible using specific labeling for each leukocyte line to establish a comparison among the three biomaterials. Flow cytometry associated with histomorphometric assessment might provide a precise quantitative in vivo test for determining the biocompatibility of materials.

1998

10/AB/6 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10983815 BIOSIS NO.: 199799604960
Flow cytometric analysis of coronary stent-induced alterations of platelet antigens in an in vitro model.
AUTHOR: Gutensohn K(a); Beythien C; Bau J; Meinertz T; Kuehnl P
AUTHOR ADDRESS: (a)Dep. Transfusion Med., Transplantation Immunol., Univ.

Hosp. Eppendorf, Martinistrasse 52, 20246**Germany
JOURNAL: Thrombosis Research 86 (1):p49-56 1997
ISSN: 0049-3848
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: One of the limitations of coronary stenting is the subacute thrombotic occlusion. In an in vitro model, we examined the effects of tantalum wire stents (n=12) on platelet antigens. Platelet-rich plasma (PRP) was circulated in PVC tubing systems. At fixed intervals over a 10-min time course, aliquots of PRP were drawn, stained with monoclonal antibodies (CD41a, CD42b, CD62p, and CD63), and analyzed by flow cytometry . Within 2 minutes of the onset of circulation, expression of the activation-dependent antigens CD62p and CD63 increased in all tubing systems with stents. This early increase was followed by a progressive rise in fluorescence intensity of these neoantigens over the course of 10 minutes (p lt 0.05 vs.. control system without stent). Antigens CD41a and CD42b did not show significant changes in either system. The artificial surfaces and shear forces of stent meshes induce alterations in platelet antigens. Flow cytometry provides a sensitive technique for in vitro testing of the thrombogenicity of coronary stents, and may be useful in further improving stent biocompatibility.

1997

10/AB/7 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10784707 BIOSIS NO.: 199799405852
Cardiopulmonary bypass tubes and prime solutions stimulate neutrophil adhesion molecules.
AUTHOR: El Habbal Magdi H(a); Smith Linda J; Elliott Martin J; Strobel Stephan
AUTHOR ADDRESS: (a)Postgrad. Med. Educ. Cardiothoracic Unit, Inst. Child Health, Great Ormond Street Hosp. Children**UK
JOURNAL: Cardiovascular Research 33 (1):p209-215 1997
ISSN: 0008-6363
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Objective: To evaluate effects of the material of the cardiopulmonary bypass (CPB) tubes (polyvinyl chloride , PVC) and prime solutions on expression of neutrophil adhesion molecule CD11b and L-selectin. Methods: We carried out a series of experiments using donor blood from 30 healthy adult human volunteers. In all experiments, neutrophil cell surface expressions of CD11b and L-selectin were assayed immediately and serially up to 2 hours, using immune-fluorescence techniques and flow cytometry . Study 1: Effects of PVC were compared with glass and polystyrene (n = 5). Study 2: Blood was mixed with Plasma-lyte (Pl) (prime solution), Hartman solutions, albumin or not altered (control), n = 5. Study 3: The effects of changing pH of the Pl (control, neutralized and acidic solution, n = 5) were examined. Study 4: Hemodilution (undiluted, 1:1, 1:2, and 1:3, vol/vol, prime to blood, n = 5) was carried out using Pl and the subsequent changes in expressions of the adhesion molecules were analyzed. Study 5: The combined effect of PVC and Pl was assessed (n = 5). Study 6: We evaluated the effect of increasing plasma water by adding sterile water to whole blood and compared it with control (n = 5). Results: Study 1: PVC , similar to glass, caused more up-regulation of CD11b and down-regulation of

L-selectin than polystyrene (238 and 162% vs. 68 increase of CD11b, P lt 0.001; 89 and 95% vs. 16% decrease of L-selectin, P lt 0.001). Study 2: Pl and Hartman solutions caused more up-regulation of CD11b and down-regulation of L-selectin compared to albumin and control (166 and 188% vs. 26 and 44% increase of CD11b, P lt 0.01; 19 and 26% vs. 10 and 6% decrease of L-selectin, P lt 0.01, respectively). Study 3: Hemodilution had no effect on these molecules. Study 4: The mean of the difference between the acidic and neutral solution was 208% increase of CD11b and 30% decrease of L-selectin, P lt 0.05. Study 5. The combined effect of mixing blood with Pl and exposure to PVC caused marked up-regulation of CD11b (336% increase, P lt 0.01) and down-regulation of L-selectin (78% decrease, P lt 0.05). Study 6: Water for injection caused marked up-regulation of CD11b and down-regulation of L-selectin. Conclusions: Mixing blood with acidic prime solution and/or exposing it to PVC tubes causes up-regulation of neutrophil adhesion molecule CD11b and down-regulation of L-selectin. Neutralization of the prime solution reduces the extent of neutrophil activation, whereas hemodilution has no effect. Increasing plasma water is stimulating to the neutrophil. Modulation of prime solutions and the material of CPB tubes may reduce neutrophil activation which may reduce patient morbidity.

1997

10/AB/8 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09209948 BIOSIS NO.: 199497218318
Granule secretion markers on fluid-phase platelets in whole blood perfused through capillary tubing.
AUTHOR: Rhodes N P(a); Zuzel M; Williams D F; Derrick M R
AUTHOR ADDRESS: (a)Dep. Clinical Engineering, University Liverpool, P.O. Box 147, Liverpool L69 3BX**UK
JOURNAL: Journal of Biomedical Materials Research 28 (4):p435-439 1994
ISSN: 0021-9304
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The effect of material composition and shear rate on fluid-phase platelet activation was investigated using a capillary perfusion model. Citrated whole blood was perfused along the lumens of tubes constructed from silicone, PVC , Pellethane, W124 (an experimental polyetherurethane), and glass. Platelet activation was determined by measuring the increase in alpha-granule membrane protein P-selectin (GMP-140, CD62) and the lysosomal granule membrane protein GP-53 (CD63) on fluid-phase platelets by flow cytometry . All tubes caused an increase over the negative control in the number of P-selectin and GP-53 molecules detectable on the surface of these platelets. The activation response of platelets to changes in shear rate was also investigated. It was found that lysosomal release paralleled a-granule release in glass, but not in Pellethane, over a range of wall shear rates (100-1,000 s-1).

1994

10/AB/9 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

07988590 Genuine Article#: 233HH Number of References: 30
Title: Platelet compatibility of an artificial surface modified with functionally active heparin (ABSTRACT AVAILABLE)
Author(s): Mollnes TE (REPRINT) ; Videm V; Christiansen D; Bergseth G; Riesenfeld J; Hovig T
Corporate Source: NORDLAND CENT HOSP,DEPT IMMUNOL & TRANSFUS MED/N-8092 BODO//NORWAY/ (REPRINT); UNIV TROMSO,/N-9001 TROMSO//NORWAY/; NORWEGIAN UNIV SCI & TECHNOL,DEPT IMMUNOL/N-7034 TRONDHEIM//NORWAY/; NORWEGIAN UNIV SCI & TECHNOL,BLOOD BANK/N-7034 TRONDHEIM//NORWAY/; UNIV OSLO,NATL HOSP, DEPT PATHOL/N-0316 OSLO//NORWAY/; CARMEDA AB,/STOCKHOLM//SWEDEN/
Journal: THROMBOSIS AND HAEMOSTASIS, 1999, V82, N3 (SEP), P1132-1136
ISSN: 0340-6245 Publication date: 19990900
Publisher: F K SCHATTAUER VERLAG GMBH, P O BOX 10 45 43, LENZHALDE 3, D-70040 STUTTGART, GERMANY
Language: English Document Type: ARTICLE
Abstract: Platelet compatibility after coating an artificial material with functionally active heparin was investigated. Blood was circulated in uncoated or heparin coated PVC tubing. In one hour platelet counts decreased from 155 (113-184) X 10(9)/l to 124 (100-148) X 10(9)/l with uncoated compared to 164 (132-192) X 10(9)/l with heparin coated tubing (intergroup p = 0.02). beta-thromboglobulin increased from 116 (80-148) mu g/l to 1039 (757-1295) mu g/l with uncoated and to 352 (229-638) mu g/l with heparin coated tubing (intergroup p = 0.005. Platelet counts and beta-thromboglobulin correlated closely with complement activation. Solid-phase enzyme immunoassay demonstrated substantial deposition of CD42a/GPIbIX(and CD61/GPIIIa on uncoated, but not on heparin coated tubing (intergroup p < 0.0005). Scanning electron microscopy demonstrated activated platelets and aggregates on uncoated in contrast to heparin coated tubing, where scattered, unactivated platelets were found. Changes in P-selectin and microparticles were minor. In conclusion, this heparin surface substantially improved platelet compatibility. Markers of choice for in vitro evaluation were platelet counts, beta-thromboglobulin and platelet deposition.

10/AB/10 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04752956 Genuine Article#: UF059 Number of References: 20
Title: COMPUTER-SIMULATION AND DATA-ANALYSIS OF EFFECTOR-TARGET INTERACTIONS - THE EXTRACTION OF BINDING PARAMETERS FROM EFFECTOR ACID TARGET CONJUGATE FREQUENCIES DATA BY USING LINEAR AND NONLINEAR DATA-FITTING TRANSFORMATIONS (Abstract Available)
Author(s): GALVEZ J; CABRERA L; LAJARIN F; GARCIAPENARRUBIA P
Corporate Source: FAC SCI,PHYS CHEM LAB/E-30071 ESPINARDO/MURCIA/SPAIN/; SCH MED,DEPT BIOCHEM & MOLEC BIOL & IMMUNOL B/E-30071 ESPINARDO/MURCIA/SPAIN/
Journal: COMPUTERS AND BIOMEDICAL RESEARCH, 1996, V29, N2 (APR), P93-118
ISSN: 0010-4809
Language: ENGLISH Document Type: ARTICLE
Abstract: Binding isotherms for effector-target conjugation when effector conjugate frequencies are measured by holding constant the number of effector cells and by varying the number of target cells are characterized by two parameters, the maximum effector conjugate frequency, alpha(max) and gamma, which is related to the dissociation constant of the conjugates formed, K-d. The suitability of four linear transformations of these binding isotherms, as well as nonlinear data-fitting techniques, to provide estimates of alpha(max) and gamma is discussed. The strength and weakness of these procedures were investigated by calculating alpha(max) and gamma from different sets of

100 or 500 replicate ''experiments,'' which were generated by using an algorithm that provides noise contributions to the conjugate frequencies with gaussian distributed errors. Both unweighted and weighted data points were used in these calculations. A similar analysis can also be performed for binding isotherms in which target conjugate frequencies are measured at different values of effector cells by holding constant the number of target cells. In this case, the binding isotherms are characterized by two parameters, the maximum target conjugate frequency, beta(max) and delta, which is also related to K-d. The results obtained demonstrate that ii the experimental conditions are chosen properly, linear transformations and nonlinear fitting techniques provide reliable estimates for the binding parameters. Not all procedures, however, provide estimates with the same accuracy, and special emphasis to this fact must be given if the binding assays are performed at low values of the number of effector cells. (C) 1996 Academic Press, Inc.

10/AB/11 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01414815 Genuine Article#: GX443 Number of References: 17
Title: STABILITY AND SORPTION OF FK 506 IN 5-PERCENT DEXTROSE INJECTION AND 0.9-PERCENT SODIUM-CHLORIDE INJECTION IN GLASS, POLYVINYL- CHLORIDE, AND POLYOLEFIN CONTAINERS (Abstract Available)
Author(s): TAORMINA D; ABDALLAH HY; VENKATARAMANAN R; LOGUE L; BURCKART GJ; PTACHCINSKI RJ; TODO S; FUNG JJ; STARZL TE
Corporate Source: UNIV PITTSBURGH,SCH PHARM,DEPT PHARMACEUT SCI,718 SALK HALL/PITTSBURGH//PA/15261; UNIV PITTSBURGH,SCH PHARM,DEPT PHARMACEUT SCI,718 SALK HALL/PITTSBURGH//PA/15261
Journal: AMERICAN JOURNAL OF HOSPITAL PHARMACY, 1992, V49, N1 (JAN), P 119-122
Language: ENGLISH Document Type: ARTICLE
Abstract: The effects of the diluent, the storage container, light, and infusion through various types of tubing on the stability and sorption of FK 506 were studied.

Solutions of FK 506 in 0.9% sodium chloride injection or 5% dextrose injection were stored at room temperature (24 +/- 2-degrees-C) in glass i.v. bottles, polyvinyl chloride (PVC) minibags, and polyolefin containers. FK 506 solution in 0.9% sodium chloride injection was stored in plastic syringes at room temperature and either exposed to normal room light or stored in the dark. FK 506 solution in 5% dextrose injection was placed in plastic syringes and infused through PVC anesthesia extension tubing, PVC i.v. administration set tubing, and fat emulsion tubing over a two-hour period. The infused samples and samples collected from the containers and syringes at intervals up to 48 hours were analyzed for FK 506 concentration by high-performance liquid chromatography.

FK 506 concentrations remained greater than 90% of initial concentration for admixtures in 5% dextrose injection stored in glass bottles for 48 hours and for admixtures in 5% dextrose injection or 0.9% sodium chloride injection stored in polyolefin containers for 48 hours. No change in concentration was measured for admixtures in 0.9% sodium chloride injection stored in plastic syringes, and exposure to light did not affect the stability of FK 506 solution. No substantial change in concentration occurred in FK 506 solution in 5% dextrose injection infused through PVC anesthesia extension tubing, PVC i.v. administration set tubing, or fat emulsion tubing.

FK-506-admixtures prepared with 5% dextrose injection or 0.9% sodium chloride injection should be stored in polyolefin containers. If polyolefin containers are not available, solutions should be prepared with 5% dextrose injection and stored in glass bottles.

10/AB/12 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10143687 99410136
In vitro comparative evaluation under static conditions of the hemocompatibility of four types of tubing for cardiopulmonary bypass.
Harmand MF; Briquet F
INSERM U443, Universite Bordeaux II, France.
Biomaterials (ENGLAND) Sep 1999, 20 (17) p1561-71, ISSN 0142-9612
Journal Code: A4P
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A comparative in vitro assessment of 4 types of tubing representative of the materials currently used in cardiopulmonary bypass (CPB) procedures was conducted under static conditions using liquid extracts of the materials or direct contact with fresh human blood or serum. The parameters monitored were biomarkers of coagulation and fibrinolytic cascades, the complement system and cell activation. Silicone and PVC tubing were shown to be non-cytotoxic and non-hemolytic. Heparin-coated PVC tubing did present a certain degree of cytotoxicity especially when in direct contact. Thrombosis was found to be significantly lower with the same heparin-coated material. To a lesser extent, platinum-cured silicone also showed a reduced thrombotic tendency. None of the materials activated platelets or the complement system. With platinum-cured silicone tubing, constant and lower leukocyte adhesion was evidenced at the different experimental time points. This could reflect reduced cell activation.

10/AB/13 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013360958
WPI Acc No: 2000-532897/200048
XRAM Acc No: C00-158788
XRPX Acc No: N00-394170
Maintaining undifferentiated hemopoietic stem/progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a 3D stromal cell culture has been preestablished, useful for gene therapy
Patent Assignee: TECHNION RES & DEV FOUND LTD (TECR); FRIEDMAN M M (FRIE-I)
Inventor: MERCHAV S; MERETSKI S
Number of Countries: 090 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200046349	A1	20000810	WO 2000US2688	A	20000204	200048	B
AU 200034807	A	20000825	AU 200034807	A	20000204	200059	

Priority Applications (No Type Date): US 99118789 A 19990204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200046349	A1	E	64	C12N-005/00	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
AU 200034807 A C12N-005/00 Based on patent WO 200046349

Abstract (Basic): WO 200046349 A1
Abstract (Basic):

NOVELTY - A method (M1) of expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a 3D stromal cell culture has been preestablished on a substrate in the form of a sheet, is new.

DETAILED DESCRIPTION - A method (M1) of expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells comprising seeding the undifferentiated cells into a stationary phase plug-flow bioreactor in which a three dimensional stromal cell culture has been preestablished on a substrate in the form of a sheet, is new. The substrate is a non-woven fibrous matrix forming a physiologically acceptable three-dimensional network of fibers.

INDEPENDENT CLAIMS are also included for the following:

(1) a method (M2) for preparing a stromal cell conditioning medium used in M1 comprising establishing a stromal cell culture in a stationary phase plug-flow bioreactor on a substrate in the form of a sheet, where the substrate is as defined in M1, and collecting medium from the bioreactor when a desired cell density is achieved;

(2) a method (M3) of transplanting undifferentiated hemopoietic stem cells or progenitor cells into a recipient comprising expanding/maintaining the undifferentiated cells using M1 and transplanting the cells into the recipient;

(3) a bioreactor plug comprising a container having an outlet and an inlet and containing a substrate in the form of a sheet, where the substrate is as defined in M1 and supports at least 5 x 106 stromal cells per cubic centimeter of the substrate; and

(4) a plug flow bioreactor comprising the bioreactor plug of (3).

ACTIVITY - None given.

MECHANISM OF ACTION - Gene therapy.

USE - The plug flow bioreactor system mimics the 3-D structure of the bone marrow and is useful for maintenance of undifferentiated hemopoietic stem cells or progenitor cells which may then be transplanted into an individual.

ADVANTAGE - The bioreactor employs a growth matrix that increases the available attachment surface for the adherence of the stromal cells, mimicking the mechanical infrastructure of bone marrow.

pp; 64 DwgNo 0/7

10/AB/14 (Item 2 from file: 351)
DIALOG(R)File 351:Derwent WPI

012624235
WPI Acc No: 1999-430339/199936
XRAM Acc No: C99-126833
XRPX Acc No: N99-320377
Use of acoustic energy, particularly in humans or animals
Patent Assignee: GEORGIA TECH RES CORP (GEOR-N)
Inventor: LEWIS T N; LIU J; PRAUSNITZ M R
Number of Countries: 021 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9934858	A1	19990715	WO 99US659	A	19990112	199936	B
EP 1053041	A1	20001122	EP 99902199	A	19990112	200061	
			WO 99US659	A	19990112		

Priority Applications (No Type Date): US 9885304 A 19980513; US 9871240 A 19980112

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9934858	A1	E	39	A61M-037/00	
	Designated States (National): CA JP				
	Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
EP 1053041	A1	E		A61M-037/00	Based on patent WO 9934858
	Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				

Abstract (Basic): WO 9934858 A1

Abstract (Basic):

NOVELTY - A novel method for altering permeability, cell viability or structural integrity of biological materials.

DETAILED DESCRIPTION - This permeability altering method comprises:

(a) administering acoustic energy to the biological materials at one or more frequencies;

(b) measuring the effect of the acoustic energy or a property of the acoustic energy at the time of or subsequent to the initial application of the acoustic energy; and

(c) using the measurement obtained in (b) to modify continued or subsequent application of acoustic energy to the biological energy.

INDEPENDENT CLAIMS are also included for the following:

(1) a device used in the above method; and

(2) a method for altering transport of chemical or biological agents into or through biological materials or cell viability in a human or other animal using acoustic energy, where the biological materials or cells are at a site distant from the site of application of the acoustic energy, comprising administering acoustic energy at one or more frequencies by applying a transducer to a first site on the human or other animal, where the acoustic energy alters transport or cell viability at a second site in the human or other animal distant from the first site.

USE - The acoustic energy can be used to alter the permeability of biological materials to a chemical or biological agent, e.g. peptides, proteins, sugars, polysaccharides, nucleotides, polynucleotide molecules, synthetic organic compounds, synthetic inorganic compounds and combinations or aggregates.

It is also used to kill cells. (all claimed).

The agent may be in the form of cells or virus particles, nano or microparticles, liposomes or other lipid vesicles or emulsions. The methods can also be used for treating tumor cells, for the measurement of analytes, removal of fluid, alteration of cell or tissue viability or alteration of structure of materials such as kidney or gall bladder stones.

ADVANTAGE - By monitoring the effects of the acoustic energy, the efficiency of the methods is improved and optimized results are obtained as treatment progresses.

pp; 39 DwgNo 0/8

10/AB/15 (Item 3 from file: 351)

DIALOG(R)File 351:Derwent WPI

010762029
WPI Acc No: 1996-258984/199626
Related WPI Acc No: 1997-131733; 1998-119913
XRAM Acc No: C96-081892
Filtering and collecting suspensions esp. for flow cytometry procedures - using tubular container and closure having inner and outer skirts with filter in orifice of bottom of inner skirt
Patent Assignee: BECTON DICKINSON CO (BECT)
Inventor: FLEMING T; FUKUSHIMA S; KAYAL J J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5518612	A	19960521	US 94298247	A	19940830	199626	B

Priority Applications (No Type Date): US 94298247 A 19940830
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5518612	A		9	B01D-029/085	

Abstract (Basic): US 5518612 A
Appts has a container (12) with a closure (14). The container has a tubular chamber with an annular sealing ring (28) at the top of its outside surface. The closure has two annular skirts. The outer skirt (56) extends between the top and bottom parts of the closure. The inner skirt (62) is inverted and extends from the top part towards the bottom part. Both skirts have protrusions (76, 78) on their inner surfaces. An orifice (74) in the bottom of the inner skirt is covered with a filter. Pref. the appts. is of polyethylene, polypropylene or PVC .
USE - Filtering and collecting suspensions used in immunological studies, esp. flow cytometry procedures.
Dwg.4/6

10/AB/16 (Item 4 from file: 351)
DIALOG(R)File 351:Derwent WPI

009692977
WPI Acc No: 1993-386531/199348
Related WPI Acc No: 1993-167659; 1993-235188; 1994-326470; 1995-263191; 1995-301577; 1995-344068; 1995-365843; 1996-179287; 1996-517879; 1997-384236; 1998-178451
XRAM Acc No: C93-171947
Fluorescent polymeric microparticles with long Stokes shift - contg. series of dyes with overlapping excitation and emission spectra, esp. used as nucleic acid assay probes
Patent Assignee: MOLECULAR PROBES INC (MOLE-N)
Inventor: BRINKLEY J M; HAUGLAND R P; SINGER V L
Number of Countries: 020 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9323492	A1	19931125	WO 93US4334	A	19930507	199348	B
EP 596098	A1	19940511	EP 93913815	A	19930507	199419	
			WO 93US4334	A	19930507		
US 5326692	A	19940705	US 92882299	A	19920513	199426	
JP 7508309	W	19950914	WO 93US4334	A	19930507	199545	
			JP 94502684	A	19930507		
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EP 596098	B1	19980617	EP 93913815	A	19930507	199828	
			WO 93US4334	A	19930507		
DE 69319205	E	19980723	DE 619205	A	19930507	199835	
			EP 93913815	A	19930507		
			WO 93US4334	A	19930507		
CA 2113106	C	20001024	CA 2113106	A	19930507	200059	
			WO 93US4334	A	19930507		

Priority Applications (No Type Date): US 92882299 A 19920513
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9323492	A1	E	43	C09K-011/06	
Designated States (National): CA JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
EP 596098	A1	E		C09K-011/06	Based on patent WO 9323492
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE					
US 5326692	A		18	C12Q-001/68	
JP 7508309	W			C09K-011/07	Based on patent WO 9323492
US 5326692	B1			C12Q-001/68	
EP 596098	B1	E		C09K-011/06	Based on patent WO 9323492
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE					
DE 69319205	E			C09K-011/06	Based on patent EP 596098
					Based on patent WO 9323492
CA 2113106	C	E		C12Q-001/68	Based on patent WO 9323492

Abstract (Basic): WO 9323492 A

Novel fluorescent microparticles (A) are prepd. by incorporating in a polymeric microparticle a series of dyes (I) including an initial donor dye (ID) with a desired excitation peak and a final acceptor dye (IA) with a desired emission peak. Each (I) in the series has sufficient spectral overall to allow significant transfer of excitation energy.

Pref. the spectral overlap allows more than 90% (esp. more than 95%) energy transfer. Pref. the total (I) concn. is less than 10 wt.% and the ratio of (ID) to (IA) is 1:5 to 10:1 (A) opt. also includes a covalently bound or passively adsorbed bioreactive substance. Also claimed is a nucleic acid detection method using (A) as probe.

The microparticles are pref. of polystyrene, brominated polystyrene, nitrocellulose, polyacrylic acid, polyacrylonitrile, polyacrylamide, polyacrolein, polydimethylsiloxane, polybutadiene, polyesoprene, polyurethane, polystiayl acetate, PVC , polyvinylpyridine , polyvinylbenzyl chloride , polyvinyltoluene, polyvinylidene chloride or polydivinylbenzene. Particle dia. is less than 15 microns.

USE/ADVANTAGE - (A) are useful in the high sensitivity detection and analysis of biomolecules (e.g. DNA or RNA) and in flow cytometry and microscopy analytical techniques, e.g. in diagnostics. Use of multiple dyes (I) provides an increased Stokes shift. The wavelength of excitation and the magnitude of the Stokes shift are easily controlled by appropriate selection of (I). As probes in DNA, or RNA hybridistion assays, (A) provide detection limits comparable with radioactivity, are chemically stable, can be coupled to antibodies for sec. detection and signal enhancement and can be used for simultaneous or sequential detection of different species. The long Stokes shift allows use in autofluorescent or pigment- contg. samples. Surfaces of (A) can be modified, e.g. to provide hydrophilicity or reduce non-specific binding.

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Abstract (Equivalent): US 5326692 A

Fluorescent microparticle (FM) are made by (a) selecting a series of dyes comprising an initial donor dye with a desired excitation peak and a final acceptor dye with a desired emission peak, which are determined in a polymeric material (PM) comprising polymerisable monomers, each dye having a spectral overlap sufficient to allow for significant energy transfer of excitation energy to the final acceptor dye; and (b) incorporating the dyes randomly in a polymeric microparticle comprising PM.

USE/ADVANTAGE - For controlled enhancement of the Stokes shift. The FM's are useful in detection and analysis of bio-molecules such as DNA and RNA that require a very high sensitivity and a flow cytometric and microscopy analytical techniques.

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